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MAMMALIA

COMPILED BY

R. W. HAYMAN, F.Z.S.

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18. MAMMALIA

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CONTENTS

	PAGE
I. TITLES	2
II. SUBJECT INDEX	66
General Literature and History, p. 66 ; Structure, p. 66 ; Physiology, p. 69 ; Reproduction and Sex, p. 73 ; Development, p. 74 ; Evolution and Genetics, p. 74 ; Ecology and Habits, p. 75 ; Distribution and Faunas, p. 79 ; Geological (Fossil Faunas), p. 82.	
III. SYSTEMATIC INDEX	84
Monotremata, p. 84 ; †Triconodonta, p. 84 ; †Sym- metrodon, p. 84 ; Marsupialia, p. 84 ; Insectivora, p. 85 ; Dermoptera, p. 86 ; Chiroptera, p. 86 ; Primates, p. 88 ; Edentata, p. 90 ; Pholidota, p. 91 ; Lagomorpha, p. 91 ; Rodentia, p. 91 ; Cetacea, p. 97 ; Carnivora, p. 98 ; †Litopterna, p. 103 ; †Notoungulata, p. 103 ; †Astrapotheria, p. 103 ; Tubulidentata, p. 103 ; Proboscidea, p. 103 ; Hyracoidea, p. 104 ; Sirenia, p. 104 ; Perissodactyla, p. 104 ; Artiodactyla, p. 106.	

I.—TITLES

- 1.—Anon. Bats at Lancaster Hole. *Cave Science* 1 1948 p. 99.
- 2.—Anon. Bats at Jug Holes, Snitterton, Matlock, Derbyshire. *Cave Science* 1 1948 p. 184.
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- 8.—Anon. The Antarctic season 1949/50. The pelagic catch. Norsk Hvalf-Tidende Sandefjord 39 1950 pp. 1-2.
- 9.—Anon. Regulations for the taking of Baleen Whales and Sperm Whales, etc. (Cont.). Norsk Hvalf-Tidende Sandefjord 39 1950 pp. 16-20.
- 10.—Anon. The summer season 1948. Norsk. Hvalf.-Tidende Sandefjord 39 1950 p. 23.
- 11.—Anon. The Antarctic season 1949/50. The pelagic catch. Norsk Hvalf-Tidende Sandefjord 39 1950 pp. 49-51.
- 12.—Anon. Catch statistics—the summer season 1948 (cont.). Norsk Hvalf-Tidende Sandefjord 39 1950 pp. 60-68.
- 13.—Anon. Catch statistics—Antarctic pelagic whaling in the season 1948/49. Norsk Hvalf-Tidende Sandefjord 39 1950 pp. 68-72.
- 14.—Anon. The Antarctic season 1949/50. Pelagic operations closed. Norsk Hvalf-Tidende Sandefjord 39 1950 pp. 97-99.
- 15.—Anon. Blue Whale stocks in the Antarctic. Norsk Hvalf-Tidende Sandefjord 39 1950 pp. 106-115.
- 16.—Anon. Catch statistics. Antarctic whaling in the season 1948/49 (cont.). Norsk Hvalf-Tidende Sandefjord 39 1950 pp. 116-120.
- 17.—Anon. Antarctic catch 1949/50. Norsk Hvalf-Tidende Sandefjord 39 1950, pp. 193-202.
- 18.—Anon. The Antarctic season 1949/50. Norsk Hvalf-Tidende Sandefjord 39 1950 pp. 297-298.
- 19.—Anon. International Whaling Commission. Second meeting in Oslo, 17th-21st July, 1950. Norsk Hvalf-Tidende Sandefjord 39 1950 pp. 349-364.
- 20.—Anon. Catch statistics. The summer season 1949. Norsk Hvalf-Tidende Sandefjord 39 1950 pp. 455-463.
- 21.—Anon. World catch 1949. Norsk Hvalf-Tidende Sandefjord 39 1950 pp. 559-565.
- 22.—Anon. A National Park in Northern Rhodesia. Oryx (J. Faun. Pres. Soc.) 1 1950 pp. 15-16 map.
- 23.—Anon. The 1950 Tanganyika Game Bill. Oryx (J. Faun. Pres. Soc.) 1 1950 pp. 24-26.
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- Afra, D. *vide* Botar.
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- 49.—Allin, A. E. European hare introduced into the district of Thunder Bay, Ontario. *Canad. Field Nat.* **64** 1950 pp. 122–124.
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Baker, R. F. *vide* Granger.

87.—Baker, R. H. The taxonomic status of *Geomys breviceps texensis* Merriam and *Geomys bursarius llanensis* Bailey. *J. Mammal. Baltimore* **31** 1950, pp. 348-349.

88.—Baker, R. H. and Hankins, R. M. A new subspecies of Snowshoe Rabbit from Wyoming. *Proc. Biol. Soc. Washington* **63** 1950 pp. 63-64.

Baker, R. H. *vide* Cockrum.

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Bane, A. *vide* Haggqvist.

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Barber, H. N. *vide* Sharman.

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- Bergersen, B. *vide* Jahn.
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- Blanchard, B. D. *vide* McCabe.
- Blanchard, W. E. *vide* Halloran.
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- 153.—Block, I. A. Ueber das Vorkommen und die Verbreitung des Schwarzwildes (*Sus scrofa* L.) im Kanton Solothurn und in der übrigen Schweiz in Vergangenheit und Gegenwart. Mitt. naturf. Ges. Solothurn No. 15 [1948] pp. 1–51.
- Blumm, C. T. *vide* Baker.
- 154.—Boardman, W. The hair tracts in Marsupials. Part IV. Direction characteristics of whorls and meristic repetition of radial fields. Proc. Linn. Soc. N.S.W. **75** 1950 pp. 89–95 1 fig.

- 155.—Boardman, W. The hair tracts in marsupials. Part V. A contribution on causation. pp. 254-266. Part VI. Evolution and genetics of tract pattern. pp. 267-272. Part VII. A system of nomenclature. pp. 273-278, 2 figs. Proc. Linn. Soc. N.S.W. 75 1950.
- 156.—Bolognari, A. Ancora sulla comparsa del Capodoglio (*Physeter macrocephalus* L.) nel Mediterraneo. Boll. Zool. 17 1950 pp. 29-37.
- 157.—Bolin, L. Spanish Big Game. Field London 196 1950 p. 107 3 figs.
- 158.—Bondi, C. Ricerche sulla catalasi (ossifero di Spirito) nel sangue di varie specie animali. Riv. Biol. Perugia N.S. 42 1950 pp. 357-364 2 graphs. [English summary.]
- 159.—Bonnievie, K. New facts on mesoderm formation and proamniotic derivatives in the normal mouse embryo. J. Morph. Philadelphia 86 1950 pp. 495-545 25 figs.
- 160.—Borger, R. Order of genes in the fifth linkage group of the House Mouse. Nature London 166 1950 p. 697.
- 161.—Borghese, E. The development *in vitro* of the submandibular and sublingual glands of *Mus musculus*. J. Anat. London 84 1950 pp. 287-302 2 pls. 3 figs.
- 162.—Borghese, E. Explantation experiments on the influence of the connective tissue capsule on the development of the epithelial part of the submandibular gland of *Mus musculus*. J. Anat. London 84 1950 pp. 303-318 3 pls. 1 fig.
- 163.—Borghese, E. Morfogenesi di ghiandole salivari di *Mus musculus* coltivate *in vitro*. Rend. Ist. Lombardo Cl. Sci. mat. nat. 82 1949 pp. 280-286.
- 164.—Borghese, E. Processi morfogenetici nello sviluppo di ghiandole salivari di *Mus musculus*. Monit. zool. Ital. 53 Suppl. 1950 pp. 71-73.
- 165.—Borissiak, A. A. Review of the Tertiary terrestrial mammals of U.S.S.R. Acad. Sci. U.S.S.R. (25th Anniv. Soviet Paleontology) Kirgizosidat 1943 pp. 1-42.
- 166.—Bormans, M. ? Record Elephant tusk. Zooleo, Leopoldville N.S. 5 1950 p. 8 fig.
- 167.—Borsetto, P. Lo stroma del sistema di conduzione cardiaco nei bovini e suo comportamento nelle varietà. Riv. Biol. N.S. 42 4 1950 pp. 461-470 2 pls. [English summary.]
- 168.—Boschma, H. Absorption of tooth tissue in the Sperm Whale. Proc. K. ned. Akad. Wet. Amsterdam 53 1950 pp. 289-293 3 figs.
- 169.—Boschma, H. Maxillary teeth in specimens of *Hyperoodon rostratus* (Müller) and *Mesoplodon grayi* Von Haast stranded on the Dutch coasts. Proc. K. ned. Akad. Wet. Amsterdam 53 1950 pp. 775-786 3 pls. 3 figs.
- 170.—Boswell, K. The Burmese Wild Dog and other matters canine. J. Bombay nat. Hist. Soc. 49 1950 pp. 301-303.
- 171.—Botar, J., Afra, D., Moritz, P., Schiffmann, H. and Scholz, M. Die Nervenzellen und Ganglien des N. Vagus. Acta Anat. Basel 10 1950 pp. 284-314 24 figs.
- 172.—Botar, J., Vilaghi, M. and Sere, G. Die gemischten Rami communicantes beim Affen. Acta Anat. Basel 9 1950 pp. 235-250 10 figs.
- 173.—Bouchud, J. Le dimorphisme sexuel crânien chez les carnivores. Bull. Mus. Hist. nat. Paris (2) 22 1950 pp. 438-442 6 figs.
- 174.—Bourdelle, E. and Deziliere, M. La valeur de la capacité de la cavité crânienne dans les rapports avec la systématique chez les mammifères. Mammalia Paris 14 1950 pp. 165-173.
- 175.—Bourdelle, E. and Frechkop, S. La classification des Equidés actuels. Mammalia Paris 14 1950 pp. 126-139.
- 176.—Bourdelle, E. and Petter, F. Note relative à un Éléphant nain du Gabon. Mammalia Paris 14 1950 pp. 145-153 1 pl. 6 figs.
- 177.—Bouveignes, O. de Les éléphants à l'Inkisi en 1652. Zooleo, Leopoldville 1950 N.S. No. 4 pp. 17-24.
- 178.—Bouveignes, O. de. Le périple d'Hannon et les gorilles. Zooleo. Leopoldville N.S. No. 8 1950 pp. 7-18 4 figs. 1 map.
- 179.—Boyden, A. and Gemeroy, D. The relative position of the Cetacea

among the Orders of Mammals as indicated by precipitin tests. *Zoologica New York* **35** 1950 pp. 145-151.

180.—Boyer, J. Les moutons d'Algerie. *Nature Paris* 1950 No. 3178 pp. 55-56 2 figs.

181.—Brambell, F. W. R., Hemmings, W. A., Henderson, M. and Rowlands, W. T. The selective admission of antibodies to the foetus by the yolk-sac splanchnopleur in rabbits. *Proc. roy. Soc. London* **137B** 1950 pp. 239-252.

182.—Brander, T. Faunistiska iakttagelser i Kwijarvi-trokten i Urdiala (Ta). *Memoranda Soc. Fauna fenn. Helsingfors* **25** 1950 pp. 121-135.

183.—Brauer, R. Anatomisch-histologische und pathologische Untersuchungen an Zähnen der ersten tertiären Längetierfauna Deutschlands. *Nova Acta Leop. Carol M.S.* **13** 1943 pp. 59-127 76 figs.

184.—Braun, A. Der segmentale Feinbau des Rückenmarks des Pferdes. *Acta Anat. Basel Suppl.* **12** 1950 pp. 1-76 38 figs. 3 tabs.

185.—Brazenor, C. W. The Mammals of Victoria and the dental characteristics of Monotremes and Australian Marsupials. *Nat. Mus. Vict. Australia, Handbook* **1** 1950 pp. 125 figs.

186.—Bresse, G. Les Mammifères. *Sciences d'Observation. Classe de Sixième. Zoologie Paris* [1947] pp. 65-189.

187.—Bressou, C. Etat actuel de la question de l'insemination artificielle. *C.R. 13e Congr. int. Zool. Paris* 1948 [1949] pp. 487-490.

188.—Bressou, C. Le pied des Tapirides. *Mammalia Paris* **14** 1950 pp. 140-144 5 figs.

189.—Bretschneider, L. H. Die elektronenoptische Untersuchung von Gewebeschnitten; die Technik der Untersuchung erläutert um Beispiel des Mamma-carcinoma der Maus. *Proc. K. ned. Akad. Wet. Amsterdam* **53** 1950 pp. 675-684 6 pls.

190.—Brightwell, L. R. House to house at the Zoo: Antelopes. *Zoo Life London* **5** 1950 pp. 61-63 1 fig.

191.—Broom, R. The genera and species of the South African fossil apemen. *Amer. J. phys. Anthropol. Philad.* **8** 1950 1 pp. 1-13 5 figs.

192.—Broom, R. Finding the missing link. *London* 1950 pp. vi and 104. [N.V. Review *Nature London* **166** 1950 pp. 839-840]

193.—Broom, R. Summary of a note on the Piltdown skulls. *Adv. Sci. London* **6** 1950 p. 343.

194.—Broom, R. Some further advances in our knowledge of the Cape Golden Moles. *Ann. Transv. Mus.* **21** 1950 pp. 234-241 3 figs.

195.—Broom, R. and Robinson, J. T. Ape or Man? *Nature London* **166** 1950 pp. 843-844 4 figs.

196.—Broom, R. and Robinson, J. T. Man contemporaneous with the Swartkrans ape-man. *Amer. J. Phys. Anthropol. Philad.* **8** 1950 pp. 151-155 6 figs.

197.—Broom, R. and Robinson, J. T. Note on the skull of the Swartkrans ape-man *Paranthropus crassidens*. *Amer. J. phys. Anthropol. Philad.* **8** 1950 pp. 295-303 2 pls. 4 figs.

198.—Broom, R. and Robinson, J. T. Notes on the pelvis of the fossil apemen. *Amer. J. phys. Anthropol. Philad.* **8** 1950 pp. 489-494, 3 figs.

199.—Broom, R. and Robinson, J. T. One of the earliest types of man. *S. Afr. J. Sci. Johannesburg* **47** 1950 pp. 55-57 3 figs.

200.—Broom, R. and Robinson, J. T. Ape or human? *S. Afr. J. Sci.* **47** 1950 pp. 142-143 2 figs.

201.—Broom, R. and Robinson, J. T. A new sub-fossil Baboon from Kromdraai, Transvaal. *Ann. Transv. Mus.* **21** 1950 pp. 242-245 5 figs.

202.—Broom, R., Robinson, J. T. and Schepers, G. W. H. Sterkfontein Ape-Man *Plesianthropus*. Part I. Further evidence of the structure of the Sterkfontein Ape-Man *Plesianthropus*. Broom and Robinson, pp. 1-83 8 pls. 27 figs. Part II. The brain casts of the recently discovered *Plesianthropus* skulls. Schepers. pp. 87-117 7 figs. *Mem. Transvaal Mus.* **4** 1950.

203.—Brown, Sir George T. Dentition as indicative of the age of the animals of the farm. London 1949 (Roy. Agric. Soc. England) pp. 62-60 figs.

204.—Browne, C. A thrill in every mile. Field London 196 1950 pp. 921-923 6 figs.

205.—Brownlee, A. Studies in the behaviour of domestic cattle in Britain. Bull. Animal Behaviour London 8 1950 pp. 11-20 8 figs.

206.—Bruckner, R. Das Auge des Okapi. Acta Tropica Basel 7 1950 pp. 123-132 9 figs.

207.—Bruhin, H. Okapi - Bibliographie. Acta Tropica Basel 7 1950 pp. 188-192.

208.—Brunner, G. Postglaziale Faunen aus dem "Guntherstaler Loch" bei Velden a. Pegnitz (Mfr.). Z. deutsch. geol. Ges. Berlin 101 1950 pp. 70-78 5 figs.

209.—Bryant, J. Value of Otters. Field London 196 1950 p. 833.

Buchanan, M. L. *vide* Klosterman.

Buck, P. D. *vide* Tryon.

210.—Buddenbrock, W. v. Vergleichende Physiologie, 4. Hormone. Basel 1950 pp. 492-134 figs.

211.—Budker, P. Sur un Rorqual de Rudolphi ou "Sei-Whale" (*Balaenoptera borealis*, Lesson) capturé au Cap Lopez (Gabon). Mammalia Paris 14 1950 pp. 154-158 1 pl. 1 fig.

212.—Budker, P. Compte-rendu sommaire d'une mission a la Station Baleinière du Cap Lopez (Gabon). Bull. Mus. Hist. nat. Paris (2) 22 1950 pp. 549-552.

213.—Buechner, H. K. Life history, ecology and range use of the Pronghorn Antelope in Trans-Pecos Texas. Amer. midl. Nat. Notre Dame 43 1950 pp. 257-354 11 figs.

214.—Bullerman, R. Note on kidnapping by Bonnet Monkey. J. Mammal. Baltimore 31 1950 pp. 93-94.

Bullier, P. *vide* Urbain.

215.—Bullough, W. S. and Eisa, E. A. The diurnal variations in the tissue glycogen content and their relation to

mitotic activity in the adult male mouse. J. exp. Biol. 27 1950 pp. 257-263 2 figs.

216.—Bundy, R. E. A search for some effects of the "short-ear" gene on behaviour in mice. Amer. Nat. 84 1950 pp. 393-399.

217.—Buno, W., Ferreira, R. V. and Franchi, C. M. Observaciones sobre la histologia del tracto genital femenino de *Otaria flavescens* (Shaw). Arch. Soc. Biol. Montevideo 17 1950 pp. 6-14 12 figs.

Bunting, F. *vide* Duran-Reynals.

218.—Bunting, H. The distribution of acid mucopolysaccharides in mammalian tissues as revealed by histochemical methods. Ann. N.Y. Acad. Sci. 52 1950 pp. 977-982.

219.—Burkl, W. Untersuchungen über die Pylorus- und Duodenaldrüsen. Z. mikr.-anat. Forsch. 56 1950 pp. 327-414 25 figs.

220.—Burns, M. and Clarkson, H. Some observations on the dimensions of follicles and of other structures in the skin of sheep. J. agric. Sci. London 39 1950 pp. 315-334, 4 pls. 4 figs.

221.—Burr, M. Plucky mother. Field London 195 1950 p. 601.

222.—Burr, M. Filming the Bison. Field London 195 1950 p. 681.

223.—[Burtchak-Abramovitch, N.] [A new find of fossil cattle in the Hipparion fauna of Maraga (*Urmiaobos azerbaijanicus* Bur. gen. et sp. nov.).] C.R. Acad. Sci. Moscow N.S. 70 1950 pp. 875-878 1 fig. [In Russian.]

224.—Burton, H. P. German Roe-buck. Field London 196 1950 p. 422 1 fig.

225.—Burton, M. Recent knowledge of hibernation. Ill. London News 216 1950 p. 64 2 figs.

226.—Burton, M. Humane rabbit trapping: the end of a thirty-year quest. Ill. London News 216 1950 p. 184 3 figs.

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- 235.—Burton, R. W. Scent. J. Bombay nat. Hist. Soc. **49** 1950 pp. 116-117.
- 236.—Burton, R. W. A bibliography of big game hunting and shooting in India and the East. J. Bombay nat. Hist. Soc. **49** 1950 pp. 222-241.
- 237.—Burton, R. W. The Burmese Wild Dog. J. Bombay nat. Hist. Soc. **49** 1950 p. 300.
- 238.—Burton, R. W. Death cry of Tiger. J. Bombay nat. Hist. Soc. **49** 1950 p. 538.
- 239.—Burton, R. W. Rabies in Tiger—two proved instances. J. Bombay nat. Hist. Soc. **49** 1950 pp. 538-541.
- 240.—Burton, R. W. The "dew-claws" of the Hunting Leopard or Cheetah [*Acinonyx jubatus* (Schreber)]. J. Bombay nat. Hist. Soc. **49** 1950 pp. 541-543.
- 241.—Burtsal, K. F. An occurrence of Leisler's Bat in Essex. Naturalist London **1950** No. 832 pp. 19-20.
- 242.—Buss, I. O. and Harbert, F. H. Relation of moon phases to the occurrence of Mule Deer at a Washington salt lick. J. Mammal. Baltimore **31** 1950 pp. 426-429 1 fig.
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- 248.—Byron, W. B. The way to game abundance, New York and London 1949 pp. xxiii and 365 22 pls. [N.V. Review J. Mamm. Baltimore **31** 1950 pp. 467-468.]
- 249.—Cagle, F. R. A Texas colony of bats, *Tadarida mexicana*. J. Mammal. Baltimore **31** 1950, pp. 400-402.
- 250.—Cahalane, V. H. Badger-coyote "partnerships." J. Mammal. Baltimore **31** 1950 pp. 354-355.
- 251.—Cain, A. J. and Harrison, R. G. Cytological and histochemical variation in the adrenal cortex of the albino rat. J. Anat. London **84** 1950 pp. 196-226 2 pls. 6 figs.
- 252.—Caldwell, K. Antrycide and African Game. Proc. & Pap. Internat. tech. Conf. Protect Nature Paris **1949** 1950 pp. 388-389.
- 253.—Calhoun, J. B. Population cycles and gene frequency fluctuations in Foxes of the genus *Vulpes*, in Canada. Canad. J. Res. Ottawa **28D** 1950 pp. 45-57.
- 254.—Calhoun, J. B. The study of wild animals under controlled conditions. Ann. N.Y. Acad. Sci. **51** 1950 pp. 1113-1122 2 figs.
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- Camburn, F. L. *vide* Hamerstrom.
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257.—Cameron, A. W. Arctic Fox on Cape Breton Island. *Canad. Field Nat.* **64** 1950 p. 154.

258.—Cameron, A. W. and Orkin, P. A. Mammals of the Lake St. John region, Quebec. *Bull. nat. Mus. Ottawa* 1950 No. 118 pp. 95-108.

259.—Cameron, T. W. M. Parasitology and evolution. *Trans. roy. Soc. Can.* (3) **44** 5 1950 pp. 1-20.

260.—Campbell, I. L. and Flux, D. S. Thyroid weights of cattle. *N.Z. J. Sci. Tech.* **31A** 3 1950 pp. 29-33.

Camphryn, R. *vide* Wanson.

261.—C[ansdale], G. S. Henry Gascoyen Maurice, C.B. *Oryx* (J. Faun. Pres. Soc.) **1** 1950 pp. 50-52 1 pl.

262.—Cantuel, P. Sur trois musaraignes de France. Contribution à l'étude du genre *Sorex* Linné 1758. *Mammalia Paris* **14** 1950 pp. 14-19.

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266.—Carne, P. H. Deer of Cranborne Chase. *Country Life London* **108** 1950 pp. 932-935.

267.—Carr, A. F. Jr. Outline for a classification of animal habitats in Honduras. *Bull. Amer. Mus. nat. Hist.* **94** 1950 pp. 563-594 22 pls. 6 figs. tables.

268.—Carr, G. Black Squirrels. *Field London* **196** 1950 p. 28.

269.—Carrington, R. W. The Squirrel-tailed Dormouse. *J. Assoc. Sch. nat. Hist. Soc.* 1950 No. 3 pp. 27-29 map.

270.—Carter, T. C. and Gruneberg, H. Linkage between fidget and agouti in the house mouse. *Heredity London* **4** 1950 pp. 373-376.

271.—Carter, T. C. and Phillips, R. S. Three recurrences of mutants in the house mouse. *J. Hered.* **41** 1950 p. 252.

272.—Carter, T. C. and Phillips, R. S. Ichthyosis, a new recessive mutant in the house mouse. *J. Hered.* **41** 1950 pp. 297-300 2 figs.

273.—Carter, T. D. On the migration of the Red Bat, *Lasiurus borealis borealis*. *J. Mammal. Baltimore* **31** 1950 pp. 349-350.

274.—Carver, J. E. King of the kraals. *Zoo Life London* **5** 1950 pp. 59-60 1 fig.

275.—Caspary, H. Einige Bilder vom Antwerpener Okapi, *Okapia johnstoni* Selater. *Zool. Gart. Lpz.* **16** 1950 pp. 180-182 5 figs.

276.—Caspers, H. Beobachtungen über das Vorkommen der Mönch-robbe (*Monachus albiventer* Bodd.) im Schwarzen Meer. (Untersuchungen über die bulgarische Küstentierwelt [2].) Neue Ergebnisse und Probleme der Zoologie (Klatt-Festschrift) Leipzig 1950 pp. 91-105 3 figs.

277.—Cassell, R. L. How bats fly. *Nat. Hist. N.Y.* **59** 1950 pp. 460-463 11 figs.

278.—Catel, W. Aus der Jugendentwicklung einer künstlich aufgezogenen Schimpansin. II Anatomische und physiologische Befunde während der ersten 10 Lebensmonate mit vergleichenden Hinweisen auf entsprechende Verhältnisse beim menschlichen Säugling. *Zool. Gart. Lpz. (N.F.)* **16** 1950 pp. 244-262 20 figs. 2 pls. 1 tab.

279.—Caubere, B. *Rhinolophus euryale* Blasius (1853) dans l'Yonne. *Feuille Nat. Paris N.S.* **5** 1950 p. 66.

280.—Cave, A. J. E. On the liver and gall-bladder of the Giraffe. *Proc. zool. Soc. Lond.* **120** 1950 pp. 381-393 5 figs.

281.—Cei, A. Il valore evolutivo di certe modificazioni a caratteré filetico dell'apparecchio della vista nei Mammiferi. *Historia Nat. Roma* **2** 1947 pp. 1-9 3 figs.

282.—Chalmers, A. G. Wild Dogs of the veld. *Country Life London* **108** 1950 pp. 1885-1886.

283.—Chance, N. R. A. and Yaxley, D. C. Central nervous function and changes in brain metabolite concentra-

tion. 1. Glycogen and lactate in convulsing mice. *J. exp. Biol.* **27** 1950 pp. 311-322 3 figs.

284.—Chang, M. C. Development and fate of transferred rabbit ova or blastocyst in relation to the ovulation time of recipients. *J. exp. Zool. Philadelphia* **114** 1950 pp. 197-225 13 figs. 2 tabs.

285.—Chang, M. C. Cleavage of unfertilized ova in immature Ferrets. *Anat. Rec. Philadelphia* **108** 1950 pp. 31-43 3 pls.

286.—Chang, T. K. and Landauer, W. Observations on the skeleton of African dwarf Goats. *J. Morph. Philadelphia* **86** 1950 pp. 367-376 1 pl. 2 figs.

287.—Chanudet, F. Sur l'écologie des Pipistrelles. *Mammalia Paris* **14** 1950 p. 182.

288.—Charles, R. P. Essai de paléontologie humaine. *Bull. Mus. Hist. nat. Marseille* **9** 1949 pp. 125-164 17 figs.

Chase, H. B. *vide* Montagna.

Chatelain, E. F. *vide* Scott.

Chatfield, P. O. *vide* Lyman.

289.—Chattin, J. E. Breeding season and productivity in the Interstate Deer Herd. *Calif. Fish Game* **34** 1948 pp. 25-31.

290.—Chattin, J. E. and Lassen, R. California antelope reproductive potentials. *Calif. Fish Game* **36** 1950 pp. 328-329.

291.—Chitty, H. The Snowshoe Rabbit enquiry, 1946-48. *J. Anim. Ecol.* **19** 1950 pp. 15-20 2 figs.

292.—Chitty, H. Canadian Arctic wild life enquiry, 1943-49: with a summary of results since 1933. *J. Anim. Ecol.* **19** 1950 pp. 180-193.

293.—Chochod, L. La faune Indochinoise. Vingt-cinq années de chasses au Tonkin et en Annam. Paris (Payot) 1950 p. 200 53 figs.

294.—Christensen, S. Method for determination of the mitotic activity in haemopoietic tissues. *Acta Anat. Basel* **10** 1950 pp. 233-237 1 fig.

295.—Christian, J. J. A field method of determining the reproductive status

of small male mammals. *J. Mammal. Baltimore* **31** 1950 pp. 95-96.

296.—Christian, J. J. A precocious male *Microtus pennsylvanicus*. *J. Mammal. Baltimore* **31** 1950 pp. 195-196.

297.—Christian, J. J. Polyovular follicles in the Woodchuck (*Marmota monax*). *J. Mammal. Baltimore* **31** 1950 p. 196.

298.—Christian, J. J. The adeno-pituitary system and population cycles in mammals. *J. Mammal. Baltimore* **31** 1950 pp. 247-259.

299.—Christian, J. J. Behavior of the Mole (*Scalopus*) and the Shrew (*Blarina*). *J. Mammal. Baltimore* **31** 1950 pp. 281-287.

300.—Chung, P. W. Evolution morphologique de la Chine du Nord depuis la fin du Miocène. *Historia Nat. Roma* **2** 1947 pp. 32-36 3 figs.

301.—Chur, C. A doe Cheetal with horns. *J. Bombay nat. Hist. Soc.* **49** 1950 p. 547.

302.—Ciric, A. *Mastodon penteliei* Gaud. et Lart. *Bull. Mus. Hist. Nat. Pays. Serb (A)* **3**, 1950 pp. 109-117 2 pls. [French rés.]

303.—Clapham, R. Pine Marten in Lakeland. *Field London* **195** 1950 p. 277 1 fig.

Clarkson, H. *vide* Burns.

304.—Cock, A. G. A case of incomplete twinning in the rabbit. *J. Genetics London* **50** 1950 pp. 59-66 3 figs.

305.—Cockrum, E. L. and Baker, R. H. A new Jumping Mouse (genus *Zapus*) from Kansas. *Proc. Biol. Soc. Washington* **63** 1950 pp. 1-4.

306.—Colam, J. B. and Hill, A. V. The horsepower of a whale. *Discovery Norwich* **11** 1950 p. 374.

Coles, J. *vide* Gleys.

307.—Coleman, E. Save the seals—part I. *Vict. Nat.* **67** 1950 pp. 153-160 2 figs.

308.—Coleman, R. H. The status of *Lasiurus borealis seminolus* (Rhoads). *J. Mammal. Baltimore* **31** 1950 pp. 190-192.

309.—Coleman, R. H. D.D.T. protects bait from ants. *J. Mammal.* Baltimore **31** 1950 p. 199.

310.—Collias, N. E. Some variations in grouping and dominance patterns among birds and mammals. *Zoologica* New York **35** 1950 pp. 97–119.

Collins, R. L. *vide* Gazin.

Conaway, C. H. *vide* Wright.

311.—Connolly, C. J. The external morphology of the primate brain, Springfield, Ill. (Charles C. Thomas) 1950 378 pp. 337 figs.

312.—Contu, P. and Maccagnani, F. Ricerche sulla glioarchitettonica dei vertebrati. V. Ungulati. *Monit. zool. ital.* **58** Suppl. 1950 pp. 98–110.

Contu, P. *vide* Bairati.

313.—Cooke, H. B. S. A critical revision of the Quaternary Perissodactyla of Southern Africa. *Ann. S. Afr. Mus.* **31** 1950 pp. 393–479 31 figs.

314.—Coolidge, H. J. Emergency action for the preservation of vanishing species. *Proc. & Pap. Internat. tech. Conf. Protect Nature* Paris **1949** 1950 pp. 479–489.

Coop, I. E. *vide* Blakley.

315.—Cooper, J. E. Maryland moles and shrews. *Maryland Nat.* **20** 1950 pp. 51–54 7 figs.

316.—Cooreman, J. Liste des Suctoria (Aphaniptera) récoltés en Belgique. *Bull. Mus. Hist. nat. Belg.* **26** 57 1950 pp. 1–12.

317.—Copley, H. Small Mammals of Kenya. *Highway Nature Guides* Nairobi 1950 pp. 96 4 pls. 32 figs.

318.—Coquoin-Carnot, M. Greffes de muqueuse gastrique de souris. Conditions de la différenciation. *Arch. Anat. micr. Morph. expér.* **39** 1950 pp. 152–177 11 figs. tables.

319.—Couto, C. de P. Novas observações sobre a paleontologia e geologia do depósito calcário de São José de Itaboraí. *Notas Prelim. Est. Serv. Geol. e Min. Brasil* **49** 1949 pp. 1–13 6 figs. 1 map.

320.—Couto, C. de P. Carnívoros fósseis do Brasil. *Rev. Acad. Colombiana Cienc.* Bogotá **7** 1950 pp. 462–467 1 pl.

Couto, C. de P. *vide* Price.

321.—Cowan, I. McT., Hoar, W. S. and Hatter, J. The effect of forest succession upon the quantity and upon the nutritive values of woody plants used as food by moose. *Canad. J. Res.* Ottawa **28D** 5 1950 pp. 249–271 2 pls. 1 fig.

322.—Cowan, I. McT. and Mackay, R. H. Food habits of the marten (*Martes americana*) in the Rocky Mountain region of Canada. *Canad. Field Nat.* **64** 1950 pp. 100–104.

323.—Cozens, A. B. The Otter Shrew. *Nigerian Field* **15** 1950 pp. 76–83 figs. map.

324.—Crabb, W. D. and Watson, G. W. Black-footed Ferret in Montana. *J. Mammal.* Baltimore **31** 1950 p. 99.

325.—Criddle, S. The *Peromyscus maniculatus bairdii* complex in Manitoba. *Canad. Field Nat.* **64** 1950 pp. 169–177.

326.—Crisler, L. The true mountaineer. *Nat. Hist. N.Y.* **59** 1950 pp. 422–428 10 figs.

327.—Cronemiller, F. P. and Bartholomew, P. S. The California Mule Deer in chaparral forests. *Calif. Fish Game* **36** 1950 pp. 343–365 7 figs.

328.—Cross, B. A. and Harris, G. W. Milk ejection following electrical stimulation of the pituitary stalk in rabbits. *Nature London* **166** 1950 pp. 994–995.

329.—Crusafont Pairo, M. La cuestión del llamado meotico español. *Arrahona Rev. Mus. Sabadell* 1–2 1950 pp. 1–10.

330.—Crusafont Pairo, M. Datos para la biogeografía del Mioceno del Vallés—Penedés. I. Los mamíferos terrestres. *Arrahona Rev. Mus. Sabadell* 1–2 1950 pp. 3–9.

331.—Crusafont Pairo, M. Cuestiones zoogeográficas en la paleomastología del neogeno de España. *C.R. 13e Congr. int. Zool. Paris* 1948 [1949] pp. 554–555.

332.—Crusafont Pairo, M. Paleomammalogie du néogène Espagnol: problèmes zoogéographiques. *C.R. 13e Congr. int. Zool. Paris* 1948 [1949] pp. 564–565.

333.—Crusafont Pairo, M. *Limnonyx*, un nuevo Lutrido del Mioceno español.

Notas Comm. Inst. Geol. Min. Esp. **20** 1950 pp. 129-147 1 pl. 1 fig.

334.—Crusafont Pairo, M. El primer representante del género *Canis* en el Pontienés eurasiático (*Canis cipio nova* sp.). Bol. Soc. esp. Hist. nat. **48** Geol. 1 1950 pp. 43-51 1 pl.

335.—Crusafont Pairo, M. and Villalta Comella, J. F. Sobre un interesante rinoceronte (*Hispanotherium* nov. gen.) del Mioceno del valle del Manzanares. Las Ciencias, Madrid **12** 4 1947 p. 867. [N.V. Review, Bol. Soc. esp. Hist. Nat. **47** 1950 p. 537.]

Crusafont Pairo, M. *vide* Villalta.

336.—Curry-Lindahl, K. Zoologiska studier på Bea Jungfrun. Fauna och Flora Uppsala 5-6 **1950** pp. 208-234 6 figs. 1 map. [English summary.]

337.—Czyzewski, J. A. A comparative method of determining the ability of rats to scent poison in bait. Zool. Polon. **5** 1950 pp. 43-55 3 tabs.

338.—Czyzewski, J. A. A relative census method for black rats (*Epimys rattus* L.). Zool. Polon. **5** 1950 pp. 119-122 1 chart.

339.—Dabcewski, Z. Studies on a teratological form of the newly born Pulawska (Golebska) swine. Bull. int. Acad. Cracovie. Cl. Sci. Math. Nat. **1949** 1950 (BII) 4-6 pp. 241-260 7 pls.

Daele, J. M. *vide* Delattre.

340.—Dahlberg, A. A. The evolutionary significance of the protostylid. Amer. J. phys. Anthropol. Philad. **8** 1950 1 pp. 15-24 4 figs.

341.—Dahlberg, G. Thymus und Fettleibigkeit bei Mäusen. Moderne Biologie Festschr. 60 Geburtstag H. Nachtsheim Berlin 1950 pp. 23-38 1 fig.

342.—Dale Smith, R. Studies on rigor mortis. Part II. Qualitative observations on the post mortem shortening of muscles. Anat. Rec. Philadelphia **108** 1950 pp. 207-216 2 figs.

343.—Dalquest, W. W. The genera of the Chiropteran family Natalidae. J. Mamm. Baltimore **31** 1950 pp. 436-443 1 fig.

344.—Dalquest, W. W. Records of mammals from the Mexican State of

San Luis Potosi. Occ. Pap. Mus. Zool. Louisiana State Univ. **23** 1950 pp. 1-15.

345.—Dalquest, W. W., Frum, W. G. and Hall, E. R. A northern record for *Centronycteris maximiliani centralis* with a key to the skulls of the North American emballonurine bats. An. Inst. Biol. Mexico **21** 1950 pp. 431-433.

Dalquest, W. W. *vide* Hall.

Dalquest, W. W. *vide* Werner.

346.—Dalton, D. N. Grey Squirrels. Field London **195** 1950 p. 930.

347.—Dam, A. J. van. Der afwijkende Verlauf des Ductus arteriosus Botalli eines neugeborenen Hirsches. Bijdr. Dierk. **28** 1949 pp. 108-117 10 figs.

348.—Dammerman, K. W. Voorkomen en verspreiding der zoogdieren in de noordoostpolder. Bijdr. Dierk. **28** 1949 pp. 118-126 1 fig.

349.—Daniell, J. P. S. Red Forest Buffalo of Equatoria. Sudan Wild Life **1** No. 3 1950 pp. 8-9 2 pls.

350.—[Danilov, D. N.] [Numbers and distribution of elks in Gorkov District.] Zool. J. Moscow **29** 1950 pp. 466-472. [In Russian.]

351.—Danneel, R. Phänotypisierung der Kaninchenfärbung. Ergebn. Biol. Berlin **18** 1941 pp. 55-87 23 figs.

352.—Danneel, R. Phänotypische Untersuchungen über die Haar und Fellzeichnung des Wildkaninchens. Biol. Zbl. Leipzig **66** 1947 pp. 330-343 12 figs.

353.—Danneel, R. Haarzeichnung und Fellmuster des Wildkaninchens. Remane and others, Verh.-Deuts. Zool. in Kiel 1948 Leipzig (Geest & Portig) 1949 pp. 36-41 5 figs.

354.—Dantchakoff, V. Sur les mécanismes différentiels dans la réalisation des sexes chez les vertébrés supérieurs (singé, *Macacus rhesus*). Bull. biol. **84** 4 1950 pp. 311-340 7 figs.

355.—Darling, F. F. Seals of the world. Zoo Life London **5** 1950 pp. 2-7 5 figs.

356.—Dathe, H. Hermeline, *Mustela erminea* L., als Katzenbeute. Zool. Gart. Lpz. **16** 1949 p. 140.

357.—**Dathe, H.** Neuerliche Beobachtung einer Känguruhgeburt. *Herre. Ve h. Deuts. Zoologen in Mainz* 1949 Leipzig (Geest & Portig) 1950 pp. 341–343 2 figs.

358.—**Dathe, H.** Der Haarstrich bei einer Rinderzwillingsmissbildung. *Neue Ergeb. Prob. Zool. (Klatt-Festschr.)* Leipzig 1950 pp. 106–114 7 figs.

359.—**Daver, S. R.** A novel method of destroying man-eaters and cattle-lifters without firearms. *J. Bombay nat. Hist. Soc.* **49** 1950 pp. 52–66 1 pl. 11 figs.

360.—**Davies, D. H.** Cape Fur Seals find sanctuary. *African Wild Life Johannesburg* **3** 1950 pp. 281–286, 293 6 figs.

361.—**Davies, J.** The blood supply of the mesonephros of the sheep. *Proc. zool. Soc. London* **120** 1950 pp. 95–112 2 pls. 5 figs.

362.—**Davies, J. and D. V.** The development of the mesonephros of the sheep. *Proc. zool. Soc. London* **120** 1950 pp. 73–93 3 pls. 5 figs.

363.—**Davis, D. E.** The Rat population of New York, 1949. *Amer. J. Hyg. Baltimore* **52** 1950 pp. 147–152 2 figs.

364.—**Davis, D. E.** The mechanics of rat populations. *Trans. N. Amer. Wildlife Conf.* **15** 1950 pp. 461–466. [N.V.]

365.—**Davis, D. E. and Fales, W. T.** The Rat population of Baltimore, 1949. *Amer. J. Hyg. Baltimore* **52** 1950 pp. 143–146 1 fig.

366.—**Davis, D. E. and Hall, O.** Polyovuly and anovular follicles in the wild Norway rat. *Anat. Rec. Philadelphia* **107** 1950 pp. 187–192 2 figs.

Davis, D. E. *vide* Spencer.

367.—**Davis, D. H. S.** Notes on the status of the American Grey Squirrel (*Sciurus carolinensis* Gmelin) in the south-western Cape (South Africa). *Proc. zool. Soc. Lond.* **120** 1950 pp. 265–268 1 fig.

368.—**Davis, M.** Hybrids of the Polar and Kadiak Bear. *J. Mamm. Baltimore* **31** 1950 pp. 449–450.

369.—**Davison, E.** The home of the Situtunga—a maze of reeds. *African Wild Life Johannesburg* **4** 1950 pp. 57–59 3 figs.

370.—**Dawe, F. S.** Notes on recent work on human evolution. *Trans. Torquay N.H. Soc.* **10** 1950 pp. 111–118.

371.—**Dawson, F. L. M.** The microbial content and morphological character of the normal bovine uterus and oviduct. *J. agric. Sci.* **40** 1–2 1950 pp. 150–156 1 pl.

372.—**Dawson, R. M. C. and Richter, D.** The phosphorus metabolism of the brain. *Proc. roy Soc. London* **137B** 1950 pp. 252–267 3 figs.

373.—**Dean, H. J.** Porcupine swims for food. *J. Mammal. Baltimore* **31** 1950 p. 94.

Deane, H. W. *vide* Van Dorp.

de Beer, G. R. *vide* Hill.

374.—**Decary, R.** La faune Malgache, son rôle dans les croyances et les usages indigènes. *Paris (Payot)* 1950 p. 236 22 figs. (Mammals pp. 13–52).

375.—**Decesiry, J.-L.** Les artères du bulbe et de la protubérance chez certains singes du Nouveau Monde. *Bull. Mus. Hist. nat. Paris* (2) **22** 1950 pp. 431–437 4 figs.

376.—**Dechambre, E.** Relations entre l'adaptation physiologique et la morphologie chez quelques mammifères domestiques et sauvages. *Mém. Mus. nat. Hist. nat. Paris N.S.* **26** 1948 pp. 75–241 24 figs.

377.—**Dechaseaux, C.** Quelques précisions sur le genre *Trechomys* Lartet. *Bull Soc. geol. Fr.* **5** **20** 1–3 1950 pp. 3–8 1 pl. 3 figs.

378.—**Dehm, R.** Die Nagetiere aus dem Mittel-Miocän (Burdigalum) von Wintershof-West bis Eichstätt in Bayern. *Abhandl. Neues Jahrb. Min. Geol. Pal.* **91** (B) 1950 pp. 321–428 137 figs.

379.—**Dehm, R.** Eine kleine *Palaeotherium*—Fauna am Ostrand des Nordlinger Rieses. *Monatsh. Neues Jahrb. Geol. Pal.* **6** (B) 1950 pp. 253–256 3 figs.

- 380.**—**Dehm, R.** Die Raubtiere aus dem Mittel-Miocän (Burdigalium) von Wintershof-West bei Eichstatt in Bayern. Abh. bayer. Akad. Wiss. N.F. No. 58 1950 pp. 1-141 240 figs. tables.
- 381.**—**Dehnel, A.** Studies on the genus *Neomys* Kaup. Ann. Univ. M.C.-Skłodowska Lublin **5C** 1 1950 pp. 1-63 3 pls. tables. [Polish with English summary.]
- 382.**—**Della Serra, O.** Le tubercule intermediaire posterieur des molaires superieures, ou metaconule, dans le genre *Alouatta* Lac. (Singes platyrrhiniens). Mammalia Paris **14** 1950 pp. 159-164 3 figs.
- 383.**—**Della Serra, O.** Considerações acerca da posicao generica de *Callithrix melanoleuca* (Miranda Ribeiro), Eladio Lima, 1944. Pap. Avulsos Dept. Zool. S. Paulo **9** 1950 pp. 285-294 16 figs.
- 384.**—**Della Serra, O.** Sobre as variacoes das osas do vomer nos Macacos do genero *Cebus*. Pap. Avulsos Dept. Zool. S. Paulo **9** 1950 pp. 351-359 9 figs.
- Denison, R. H.** *vide* Zangerl.
- 385.**—**Denizot, G.** Coordination du Quaternaire du France. Bull. Soc. géol. Fr. **5** **19** 1949 pp. 223-244 4 figs.
- 386.**—**Deraniyagala, P. E. P.** The Elephant of Asia. Proc. 5th Ann. Sess. Ceylon Ass. Sci. March, 1950 sep. pag. pp. 1-18 2 figs.
- D'Errico, A. A.** *vide* Paiva.
- 387.**—**Devocht, J.** Overzichtelijke studie der huidige kennis vande Afrikaanse Olifant. Bull. Agric. Congo Belge **41** 2 1950 pp. 442-462.
- 388.**—**de Vos, A.** Timber Wolf movements on Sibley Peninsula, Ontario. J. Mammal. Baltimore **31** 1950 pp. 169-175.
- De Vos, D.** *vide* Bigalke.
- Deziliere, M.** *vide* Bourdelle.
- 389.**—**Dharmakumarsinhji, K. S.** Preservation problems of vanishing and decreasing big game population in India. Proc. & Pap. Internat. tech. Conf. Protect Nature Paris **1949** 1950 pp. 436-441.
- Dharmakumarsinhji, K. S.** *vide* Winter-Blyth.
- 390.**—**Dickie, M. M. and Woolley, G. W.** Fuzzy mice. J. Hered. **41** 7 1950 pp. 193-196 3 figs.
- 391.**—**Didier, R.** Etude systematique de Pos peniens des Mammifères (suite). Procyonidés, Ursidés. Mammalia Paris **14** 1950 pp. 78-94 1 pl. 14 figs.
- Didier, R.** *vide* Cantuel.
- Diercks, F. H.** *vide* Traub.
- 392.**—**Dietrich, W. O.** Fossile Antilopen und Rinder aquatorialafrikas (Material der Kohl-Larsen'schen Expeditionen). Palaeontograph. Stuttgart **99** (A) 1950 pp. 1-62 6 pls. 59 figs.
- Dietz, D. B.** *vide* Sawin.
- Dinussion, W. E.** *vide* Klosterman.
- Domanski, A.** *vide* Prawochenski.
- 393.**—**Donovan, D. T.** Two Hares with one shot. Country Life London **108** 1950 p. 1791 1 fig.
- 394.**—**Dorst, J.** Note sur les chats sauvages (*Felis lybica* Forster) du Sud-Togo. Bull. Mus. Hist. nat. Paris (2) **22** 1950 pp. 204-208.
- 395.**—**Doucet, J.** A propos des glandes de l'onglon des Potamochoeres. Nat. Malgache Tananarive **2** 1950 pp. 69-70 1 fig.
- 396.**—**Douglas, A. S. and Barr, M. L.** The course of the pyramidal tract in Rodents. Rev. Canad. Biol. Montréal **9** 1950 pp. 118-122 1 fig.
- 397.**—**Dowling, D. F.** Problems of the transplantation of fertilized ova. J. agric. Sci. London **39** 1950 pp. 374-396 4 pls. 3 figs.
- 398.**—**Drake, G. E. and Presnall, C. C.** A Badger preying upon carp. J. Mammal. Baltimore **31** 1950 pp. 355-356.
- 399.**—**Duckert, Dr.** Observations de Muscardins en France. Mammalia Paris **14** 1950 p. 183.
- Dunaeva, T.** *vide* Olsufyev.
- 400.**—**Dunn, G.** A Fox at Hampstead. Field London **195** 1950 p. 763.
- 401.**—**Dunn, L. C. and Gluecksohn-Shoenheimer, S.** Repeated mutations in one area of a mouse chromosome. Proc. Nat. Acad. Sci. Washington **36** 1950 pp. 233-237.

402.—Duran-Jorda, F. Secretion of red blood corpuscles as seen in the Camel. *Nature* London **165** 1950 p. 280.

403.—Duran-Reynals, F., Bunting, F. and van Wagenen, G. Studies on the sex skin of *Macaca mulatta*. *Ann. N.Y. Acad. Sci.* **52** 1950 pp. 1006-1014 7 figs.

404.—Eads, R. B. and Menzies, G. C. Fox ectoparasites collected incident to a rabies control program. *J. Mammal.* Baltimore **31** 1950, pp. 78-80.

405.—Eales, N. B. The skull of the foetal narwhal, *Monodon monoceros* L. *Philos. Trans. roy. Soc. London* **235B** 1950 pp. 1-33 15 figs.

406.—Eames, F. E. On the age of the fauna of the Bugti Bone Beds, Baluchistan. *Geol. Mag. London* **87** 1950 pp. 53-56 1 geol. map.

Easler, C. *vide* Fuller.

407.—[Eberzin, A. G.] [The stratigraphical position of the sites of the early Hipparions in the Moldavian Soviet Republic.] *C.R. Acad. Sci. Moscow N.S.* **75** 1950 pp. 283-286 [In Russian].

408.—Eble, Lt.-Col. *Propos de la vitesse du Rhinoceros (Dicerus bicornis (L.))*. *Mammalia* Paris **14** 1950 pp. 178-179.

409.—Ecke, D. H. and Johnson, C. W. Sylvatic plague in Park County, Colorado. *Trans. N. Amer. Wildlife Conf.* **15** 1950 pp. 191-197. [N.V.]

410.—Eddy, S. and Hodson, A. C. Taxonomic keys to the common animals of the North Central States exclusive of the Parasitic Worms, Insects and Birds. Minneapolis, 1950 pp. 1-123. [Mammals pp. 97-102]

411.—Edinger, T. Die Paläoneurologie am Beginn einer neuen Phase. *Experientia* Basel **6** 1950 pp. 250-258 4 figs.

412.—Edinger, T. Frontal sinus evolution (particularly in the Equidae). *Bull. Mus. Comp. zool. Harvard* **103** 1950 pp. 411-496 9 pls. 6 figs.

413.—Egawa, S. and Hirokawa, S. Zur Medulla oblongata des indischen Elefanten. *Gegenbaurs Jb.* **85** 1941 pp. 525-539 3 figs.

Egawa, S. *vide* Hirokawa.

414.—Eggeling, H. V. Mensch und Menschenaffen. *Anat. Anz. Jena* **96** 1947 pp. 38-44.

415.—Ehik, G. Neue Angaben zur Kenntnis der Art *Microtus mirhanreini* Schaefer. *Sborn. nar. Mus. Praha* **5B** Zool. 2 1949 pp. 81-86 2 figs.

416.—Eibl-Eibesfeldt, I. Über die Jugendentwicklung des Verhaltens eines männlichen Dachsens (*Meles meles* L.) unter besonderer Berücksichtigung des Spieles. *Z. Tierpsychol. Berlin* **7** 1950 pp. 327-355 10 figs.

417.—Eibl-Eibesfeldt, I. Beiträge zur Biologie der Haus und der Ahrenmaus nebst einigen Beobachtungen an anderen Nagern. *Z. Tierpsychol. Berlin* **7** 1950 pp. 558-587 2 figs.

418.—Eidmann, H. Anomalien am Gebiss der Cerviden. *Zool. Anz. Leipzig* **137** 1942 pp. 151-162 6 figs.

Eisa, E. A. *vide* Bullough.

419.—Eiseley, L. C. Is man here to stay? *Scient. Amer.* **183** 1950 pp. 52-55 1 fig.

420.—Eisentraut, M. Die Bedeutung von Temperatur und Klima im Leben der Chiropteren. *Biol. Zbl. Leipzig* **66** 1947 pp. 236-251.

421.—Eisentraut, M. Beobachtung über Begattung bei Fledermäusen im Winterquartier. *Zool. Jahrb. Jena (Syst.)* **78** 1949 pp. 297-300.

422.—Eisentraut, M. Die Ernährung der Fledermäuse (Microchiroptera). *Zool. Jahrb. Jena (Syst.)* **79** 1950 pp. 114-177, 33 figs.

423.—Elftman, H. The Sertoli cell cycle in the mouse. *Anat. Rec. Philadelphia* **106** 1950 pp. 381-393 7 figs.

Elftman, H. *vide* Raven.

424.—Elias, H. Revision der Struktur der Säugerleber. *Anat. Anz. Jena* **96** 1948 pp. 454-460 10 figs.

Elkins, W. A. *vide* Scott.

425.—Ellinger, T. U. H. and others. A report on the occurrence of a median eye in a partially dicephalic cat. *Anat. Rec. Philadelphia* **107** 1950 pp. 67-71 2 figs.

426.—Eloff, F. C. The last stronghold of the Sable Antelope in the Northern Transvaal bushveld. African Wildlife Johannesburg **4** 1950 pp. 193-195 1 fig.

427.—Eloff, F. C. On the relations of the vomer to the ethmoidal skeleton in certain rodents. Ann. Transv. Mus. **21** 1950 pp. 217-221 1 fig.

428.—Eloff, F. C. On the nasal region of the chondocranium of the Cape Hare, *Lepus capensis*. Ann. Transv. Mus. **21** 1950 pp. 222-233 4 figs.

429.—Eloff, F. C. The homology of the mammalian pterygoid in the light of some new evidence. Proc. Linn. Soc. Lond. **162** 1950 pp. 56-63 3 figs.

430.—Elsey, C. A. Abundance of certain mammals of the Geraldton Forest District, Ontario. Canad. Field Nat. **64** 1950 pp. 159-163 6 figs.

Emlen, J. T. Jr. *vide* Young.

431.—England, D. Grey Squirrels. Field London **195** 1950 p. 721.

432.—Ennouchi, E. Les mammifères du Quaternaire de Rabat (Premiers résultats). Bull. Soc. Sci. nat. Maroc. **28** 1950 pp. 34-36.

433.—Ennouchi, E. Longevité de l'Ordre des Proboscidiens fossiles au Maroc. Bull. Soc. Sci. nat. Maroc. **28** 1950 pp. 87-99 2 pls.

434.—Erdbrink, D. P. Mammoetvondsten uit het Gooi. Geol. Mijnbouw **12** 1950 pp. 151-155 4 figs.

435.—Fabiani, R. Sui resti di O-dontoceti del Miocene inferiore del Ragusano conservati nel Museo di Geologia dell'Università di Palermo. G. Sci. nat. econ. Palermo **46** Sez. 2 **1** 1949 pp. 1-9.

436.—Falconer, D. S. The estimation of mutation rates from incompletely tested gametes, and the detection of mutations in mammals. J. Genet. Cambridge **49** **3** 1949 [1950] pp. 226-234.

Fales, W. T. *vide* Davis.

Falkenbach, C. H. *vide* Schultz.

437.—Feakes, M. J., Hodgkin, E. P., Strahan, R. and Waring, H. The

effect of posterior lobe pituitary extracts on the blood pressure of *Ornithorhynchus* (Duck-billed Platypus). J. exp. Biol. Cambridge **27** 1950 pp. 50-58 4 figs.

438.—Fekete, E. Polyovular follicles in the C58 strain of mice. Anat. Rec. **108** 1950 pp. 699-707 2 pls.

439.—Feldman, J. D. Histochemical reactions of adrenal cortical cells. Anat. Rec. **107** 1950 pp. 347-358 2 tabs. Rec. **106** 1950 pp. 413-427 6 figs.

440.—Felten, H. Die Zwergmaus. Nat. u. Volk **80** 1950 pp. 248-251 5 figs.

441.—Felten, H. Zu unseren Bildern vom Iltis. Natur u. Volk **80** 1950 pp. 342-344 3 figs.

442.—Ferguson, K. S. The Carr Hartley Expedition. Sudan Wild Life **1** **2** 1949 pp. 27-31 1 fig.

443.—Feriane, O. Fauna Zoolens-kého okresu so zreteľom na starovec. Prirod. Sbornik. Bratislava **4** 1949 pp. 37-76 tables. [With French résumé.]

Ferreira, R. V. *vide* Buno.

444.—Ferrel, C. M. and Leach, H. R. Food habits of a California deer herd. Calif. Fish Game **36** 1950 pp. 235-240.

445.—Ferrel, C. M. and Leach, H. R. Food habits of the Pronghorn antelope of California. Calif. Fish Game **36** 1950 pp. 21-26 3 tabs.

446.—Fichter, E. Watching Coyotes. J. Mammal. Baltimore **31** 1950 pp. 66-73.

447.—Figula, M. Das Herz des indischen Elefanten. Gegenbaurs Jb. **84** 1940 pp. 307-341 15 figs.

448.—Findlay, J. O. and Yang, S. H. The sweat glands of Ayrshire cattle. J. agric. Sci. **40** 1950 pp. 126-133 7 pls. 1 fig. tables.

449.—Finlay, J. Orchard mouse control. Proc. Washington St. hort. Assoc. **1949** [1950] pp. 67-69.

450.—Finlayson, H. H. Note on the cranial and dental characters of a specimen of *Rhinoceros sondaicus* Desm. Proc. zool. Soc. London **120** 1950 pp. 151-154.

Fischberg, M. *vide* Beatty.

451.—Fisher, J. The black rat, *Rattus rattus* (L.), in London. London Nat. No 29 1950 p. 136.

452.—Fisher, R. A. Polydactyly in mice. Nature, London 165 1950 p. 407.

453.—Fisher, R. B. and Parsons, P. S. The gradient of mucosal surface area in the small intestine of the rat. J. Anat. London 84 1950 pp. 272-282 4 fig.

454.—Fitch, H. S. A new style live-trap for small mammals. J. Mammal. Baltimore 31 1950 pp. 364-365.

Fitch, N. *vide* Gluecksohn-Schoenheimer.

455.—Fitter, R. S. R. Man's additions to the British fauna. Discovery Norwich 11 1950 pp. 58-62 9 figs.

456.—Fitter, R. S. R. Mammals (Gloucestershire). Proc. Cotteswold Nat. Gloucester 30 1950 pp. 48-49.

457.—Fitter, R. S. R. Some additional records of mammals, reptiles and amphibia in the London area. London Nat. No. 29 1950 pp. 133-136.

458.—Fleay, D. Australia's Yellow-footed Marsupial Mouse. Animal Kingdom New York 53 1950 pp. 20-24 4 figs.

459.—Fleay, D. Experiences with Australia's Brush-tailed Tuan. Animal Kingdom New York 53 1950 pp. 152-157 6 figs.

460.—Fleay, D. Possum of the high ranges. Nat. Hist. N.Y. 59 1950 pp. 352-355 5 figs.

461.—Fleay, D. Further notes on the Badger Creek platypuses. Vict. Nat. Melbourne 67 1950 pp. 81-87 1 fig.

462.—Fleay, D. New facts about the family life of the Australian Platypus. Zoo Life London 5 1950 pp. 49-51 3 figs.

463.—Flexner, J. B. and Flexner, L. B. Biochemical and physiological differentiation during morphogenesis. XI. The effect of growth on the amount and distribution of water, protein and fat in the liver and cerebral cortex of the fetal guinea-pig. Anat. Rec. 106 1950 pp. 413-427 6 figs.

Flux, D. S. *vide* Campbell.

464.—Folley, S. J. Physiological mechanism of milk secretion. Nature London 166 1950 pp. 853-855.

465.—Fonton, M. E. de. Les grottes de Riaux (Massif de la Nerthe-Marseille). Bull. Mus. Hist. nat. Marseille 9 1949 pp. 21-63 2 pls. 95 figs.

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467.—Foran, W. R. Is there a Pygmy Elephant? Field London 196 1950 p. 866.

468.—Forbes, A. Vanishing big game herds in Africa. Proc. and Pap. Internat. tech. Conf. Protect Nature Paris 1949 1950 pp. 442-443.

469.—Frade, F., Bacelar, A. and Goncalves, B. Trabalhos da Missao Zoológica da Guiné I-V. Relatorio da Missao Zoologica e contribuções para o conhecimento da fauna da Guiné Portuguesa. An. Junta Miss. Geogr. Invest. Colon. Lisboa 1 1946 pp. 261-415 50 figs. [English summary.]

Franchi, C. M. *vide* Buno.

470.—Frankforter, W. D. The Pleistocene geology of the middle portion of the Elkhorn River Valley. Univ. Nebraska Stud. N.S. No. 5 1950 pp. 1-45 15 figs.

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473.—Fraser, F. C. Two skulls of *Globicephala macrorhyncha* (Gray) from Dakar. Atlantide Report (Sci. Res. Danish Exp. Coasts Trop. W. Africa 1945-1946) 1 Copenhagen 1950 pp. 49-60 5 pls. 2 figs.

474.—Fraser, F. C. Description of a Dolphin *Stenella frontalis* (Cuvier) from the coast of French Equatorial Africa. Atlantide Report (Sci. Res. Danish Exp. Coasts Trop. W. Africa 1945-1946) 1 Copenhagen 1950 pp. 61-83 4 pls.

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- 476.—Fraser, F. C. and King, J. E. The bone remains from Star Carr, Seamer (Yorkshire). Proc. Prehist. Soc. **6** 1949 pp. 67–69.
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- 480.—Frechkop, S. Notes sur les mammifères XXXVII—Albinisme partiel chez une Antilope. Bull. Inst. Roy. Sci. Nat. Belg. **26** 62 1950 pp. 1–4 1 fig.
- Frechkop, S. *vide* Bourdelle.
- 481.—French, C. Grey Squirrels. Field London **196** 1950 p. 786.
- 482.—Friant, M. L'ordre de réduction des premolaires chez les Chiroptères. Anat. Anz. Jena **95** 1944 pp. 148–149 1 fig.
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- 487.—Friant, M. Recherches sur le télencéphale des Rhinocerotidae. Proc. zool. Soc. Lond. **120** 1950 pp. 337–347 10 figs.
- 488.—Friant, M. Sur le chien des Incas (*Canis ingae* Tschudi), préhispanique. Cahiers Géologiques de Thiory (Ain) **1** 1950 pp. 1–2.
- 489.—Friant, M. Sur les insectivores (Erinacéidés) des genres *Erinaceus* et *Palerinaceus*. C. R. Acad. Si. Paris **230** 1950 pp. 1540–1543.
- Frick, L. P. *vide* Traub.
- Frisch, O. von *vide* Kahmann.
- Fritz, E. *vide* Koby.
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- Frum, W. G. *vide* Dalquest.
- 491.—Fuller, J. L., Easler, C. and Smith, M. E. Inheritance of audiogenic seizure susceptibility in the mouse. Genetics **35** 1950 pp. 622–632 1 fig.
- 492.—Fuller, W. A. Aerial census of northern bison in Wood Buffalo Park and vicinity. J. Wildlife Management, Menasha, Wis. **14** 1950 pp. 445–451. [N.V.]
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- Gaines, T. B. *vide* Hayes.
- 495.—[Gaje, I.] [Barometric pressure and hibernation.] Glas. Srpsk. Kralj. Akad. Belgrade **93** 1941, pp. 115–131.
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498.—Garber, E. D. and Hauth, F. C. A new mutation with asymmetrical expression in the mouse. *J. Hered.* **41** 5 1950 pp. 122–124 2 figs.

499.—Gardner, E. Physiology of movable joints. *Physiol. Rev. Baltimore* **30** 2 1950 pp. 127–176.

500.—Gardner, M. C. An undescribed Washington Pocket Gopher. *J. Mammal. Baltimore* **31** 1950 pp. 92–93.

501.—Gardner, M. C. An undescribed pika from Utah. *J. Wash. Acad. Sci.* **40** 1950 p. 344.

502.—Gardner, R. C. B. Wild White Cattle. *Field London* **196** 1950 p. 833 1 fig.

503.—Garner, R. J. Availability of the magnesium of grass to the ruminant. *Nature London* **166** 1950 p. 614.

504.—Garnham, P. C. C. Exoerythrocytic schizogony in bat malaria. *Nature London* **166** 1950 p. 155.

505.—Garven, H. S. D. On the size of the liver and spleen in the various classes of vertebrates. *Peking nat. Hist. Bull.* **16** 1948 pp. 175–177 tables.

506.—Gashwiler, J. S. A study of the reproductive capacity of Maine Muskrats. *J. Mammal. Baltimore* **31** 1950 pp. 180–185.

Gashwiler, J. S. *vide* Robinette.

507.—Gasser, R. Über die Nagel-Ballen - Relation der Primatenzehe. *Anat. Anz. Jena* **97** 1949 pp. 121–144 8 figs.

Gatenby, J. B. *vide* Moussa.

508.—Gaughran, G. R. L. Domestic cat predation on Short-tailed Weasel. *J. Mammal. Baltimore* **31** 1950 p. 356.

509.—Gazin, C. L. Annotated list of fossil mammalia associated with human remains at Melbourne, Fla. *J. Wash. Acad. Sci.* **40** 1950 pp. 397–404.

510.—Gazin, C. L. and Collins, R. L. Remains of land mammals from the Miocene of the Chesapeake Bay region. *Smithson misc. Coll.* **116** 1950 pp. 1–21 7 figs.

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513.—Gee, E. P. Wild Elephants in Assam. *Oryx (J. Faun. Pres. Soc.)* **1** 1950 pp. 16–22 2 figs. [Reprint from *Loris*.]

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515.—Gee, E. P. Wild Elephants dying in Assam. *J. Bombay nat. Hist. Soc.* **49** 1950 p. 296.

516.—Gee, E. P. Wild Elephants dying in Assam. *J. Bombay nat. Hist. Soc.* **49** 1950 p. 413–414.

517.—Gee, E. P. Stalking the Gaur. *Field London* **196** 1950 p. 450 2 figs.

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Gemeroy, D. *vide* Boyden.

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Geptner, V. G. *vide* Heptner.

520.—[Gerasimenko, G. T.] [Influence of light on some seasonal alterations in the organism of *Citellus suslica* Guel'd.] *C.R. Acad. Sci. Moscow N.S.* **71** 1950 3 pp. 581–584 2 diagr. [In Russian.]

521.—Gerber, E. Bericht über Keltisch-römische Knochenfunde aus der Stadt Solothurn. *Mitt. naturf. Ges. Solothurn* No. 15 [1948] pp. 55–61 5 figs.

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523.—Ghetie, V. and Riga, J. T. Die funktionelle Struktur der Ligamenta collateralia am Ellbogen- und am Sprunggelenke des Pferdes. *Anat. Anz. Jena* **95** 1944 pp. 271–285 4 figs.

Giai, A. G. *vide* Huergo.

524.—Giaja, J. and Andjus, R. Le fonctionnement du coeur des mammifères refroidis. C.R. Acad. Sci. Paris 230 1950 pp. 1366–1367.

525.—Gibbs, W. H. Abnormal clavicle bones in Tiger. J. Bombay nat. Hist. Soc. 49 1950 pp. 296–297 1 fig.

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529.—Gibson-Hill, C. A. The Dugong. Malayan Nature J. 5 1950 pp. 25–29, 2 figs.

530.—Gibson-Hill, C. A. Chasen, Kempe and the Bearded Pig. Malayan Nature J. 5 1950 pp. 101–103.

531.—Gibson-Hill, C. A. A note on the Cetacea stranded on the Cocos-Keeling Islands. Bull. Raffles Mus. Singapore 22 1950 pp. 278–279.

532.—Gibson-Hill, C. A. The whales, porpoises and dolphins known in Sarawak waters. Sarawak Mus. J. 5 2 1950 pp. 288–296 4 figs.

533.—Gillan, Sir G. Lions in India. Country Life London 108 1950 p. 1691.

534.—Gilmore, R. M. Fauna and ethnozoology of South America. Bull. Bur. Amer. Ethn. No. 143 1950 pp. 345–464 12 pls. 7 maps.

535.—Gispen, R. The role of rats and mites in the transmission of epidemic scrub typhus in Batavia. Docum. neerl. indones. Morbis trop. Amsterdam 2 1950 1 pp. 23–35 figs. tables.

Glass, B. P. *vide* Arvey.

536.—Glauert, L. The development of our knowledge of the Marsupials of Western Australia. J. Roy. Soc. W. Aust. 34 1950 pp. 115–134.

537.—Glauert, L. Observations on Marsupials in captivity. W. Aust. Nat. Perth 2 1951 pp. 54–57.

538. Glee, P. and Cole, J. Beobachtungen über die Wiederherstellung der motorischen Funktionen nach Rindenabtragungen beim Rhesusaffen. Herre. Verh. Deuts. Zoologen in Mainz 1949, Leipzig (Geest. Portig) 1950 pp. 198–201 3 figs.

539.—Gluecksohn-Schoenheimer, S., Segal, R. and Fitch, N. Embryological tests of genetic male sterility in the House Mouse. J. exp. zool. Philadelphia 113 1950 pp. 621–631.

Gluecksohn-Schoenheimer *vide* Dunn.

540.—Glynn-Baker, F. Tragedy of entwined horns. Field London 195 1950 p. 26 1 fig.

541.—Godet, R. Evolution comparée des voies génitales mâles chez les insectivores Lipotyphla. C.R. Acad. Sci. Paris 231 1950 pp. 1094–1096.

542.—Goethe, F. Vom Leben des Mauswiesels (*Mustela n. nivalis* L.). Ein Beitrag zur Ethographie der heimischen Musteliden. Zool. Garten Leipzig 17 1950 pp. 193–204, 1 fig.

543.—Goldman, E. A. Raccoons of North and Middle America. N. Amer. Fauna 60 1950 pp. vi and 153 22 pls. 2 figs.

544.—Gompper, H.-J. Die Beziehungen zwischen dem Binnenskelet und dem Schwellgewebe der Nasenhöhle bei einigen Säugetierarten. Anat. Anz. Jena 96 1948 pp. 379–398 6 figs.

Goncalves, B. *vide* Frade.

545.—Gonzalez, R. I. Técnica para la extracción de sangre de animales de laboratorio y su aplicación al hemocultivo seriado en ratones. Microbiol. Españ. Madrid 1 1947 pp. 81–93 9 figs.

546.—Goodman, D. C. A persistent left superior vena cava and anomalous anastomosing mediastinal vein in a domestic cat. Anat. Rec. 108 1950 pp. 415–420 2 figs.

547.—Goodpaster, W. and Hoffmeister, D. F. Bats as prey for Mink in Kentucky Cave. J. Mamm. Baltimore 31 1950 p. 457.

548.—Gopalakrishna, A. Studies on the embryology of Microchiroptera, Part IV. An analysis of implantation and early development in *Scotophilus*

wroughtoni (Thomas). Proc. Indian Acad. Sci. **30B** 4 1949 pp. 226-242 2 pls.

549.—Gopalakrishna, A. Studies on the embryology of Microchiroptera. Part V. Placentation in the Vespertilionid Bat, *Scotophilus wroughtoni* (Thomas). Proc. Indian Acad. Sci. **31B** 1950 pp. 235-251 7 pls.

550.—Gopalakrishna, A. Studies on the embryology of Microchiroptera. Part VI. Structure of the placenta in the Indian vampire bat, *Lyroderma lyra lyra* (Geoffroy) (Megadermatidae). Proc. nat. Inst. Sci. India **16** 1950 pp. 93-98 1 pl. 2 figs.

Gordon, J. G. *vide* Tribe.

551.—Gottlieb, G. O. Zur Kenntnis der Birkenmaus (*Sicista betulina* Pall.). Zool. Jahrb. Jena (Syst.) **79** 1950 pp. 93-113 12 figs.

552.—Gouin, F. Les Mammifères d'Alsace. Mus. Zool. Strasbourg Livret-Guide des Collections. Fasc. 1. Introduction Gen. Mamm. 1950 pp. xii and 29 16 figs.

Gouveia, E. *vide* Trineao.

553.—Gowers, Sir W. The classical Rhinoceros. Antiquity Glos. **24** 1950 pp. 61-71 figs.

554.—Graae, B. Farming Nutria the Danish way. Country Life London **108** 1950 pp. 461-463 4 figs.

555.—Graaf, H. J. de, Jongh, S. E. de and Paesi, F. J. A. On the development of the mammary gland in the rat, III. Acta Physiol. Pharmacol. Neerl. Amsterdam **1** 1950 pp. 298-303.

556.—Graf, W. Quantitativ-histologische Analyse von roter und weisser Muskulatur beim Kaninchen. Anat. Anz. Jena **95** 1944 pp. 107-118.

557.—Grange, W. B. The way to game abundance, with an explanation of game cycles. New York (Scribner's Sons) 1949 pp. xviii and 365 frontis. 24 pls.

558.—Granger, B. and Baker, R. F. Electron microscope investigation of the striated border of intestinal epithelium. Anat. Rec. **107** 1950 pp. 423-441, 2 pls.

559.—Gray, F. V. and Pilgrim, A. F. Fermentation in the rumen of the sheep. Nature London **166** 1950 p. 478.

Gray, H. *vide* Addis.

560.—Green, H. U. The productivity and sex survival of Elk. Banff National Park, Alberta. Canad. Field Nat. **64** 1950 pp. 40-42.

561.—Green, R. B. Camels in the Cariboo. Mus. & Art Notes Vancouver B.C. **1** 1950 pp. 26-30 1 fig.

562.—Greene, H. C. A record of Fox Squirrel longevity. J. Mamm. Baltimore **31** 1950 pp. 454-455.

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565.—Gresson, R. A. R. A study of the male germ-cells of the Rat and the Mouse by phase-contrast microscopy. Quart. J. micr. Sci. London **91** 1950 pp. 73-78 1 pl.

Greville, C. M. *vide* Appleyard.

566.—Griffiths, W. J. Jr. Self-selection of diet in relation to audiogenic seizures in rats. Science **112** 1950 pp. 786-787.

567.—[Grigoryeva, V. I.] [Investigation "in vivo" of the rabbit cornea fixed in cool conditions.] C.R. Acad. Sci. Moscow N.S. **74** 1950 pp. 807-809 [In Russian].

Grimm, W. C. *vide* Richmond.

568.—[Gromova, V.] [Key to the identification of the mammals of U.S.S.R. based on skeletal bones. Part I. Key for identification of long bones.] Trav. Comm. Etude. Quatern. Acad. Sci. U.S.S.R. **9** 1950. (A) Text pp. 1-240 3 figs. (B) Atlas 105 pls. [In Russian.]

569.—Gross, H. Ein subfossiler *Rangifer tarandus*—Fund aus Ostpreussen. Abh. naturw. Ver. Bremen **32** 1942 pp. 64-76 3 figs.

570.—Gruchy, D. F. Status of the Opossum, *Didelphis virginiana*, in Colorado. J. Colo-Wyo. Acad. Sci. **4** 1950 p. 76.

571.—Grulich, I. Contribution to the knowledge of the variability of *Rhinolophus hipposideros* Bechst. Acta Acad. Sci. nat. Moravo-Silès. **21** 5 1949 pp. 1–60 12 figs. tables. [English summary].

Grulich, I. *vide* Kratochvil.

572.—Gruneberg, H. Embryology of mammalian genes. Rev. suisse Zool. Genève **57** 1950 Suppl. 1 pp. 129–139.

573.—Gruneberg, H. Genetical studies on the skeleton of the Mouse. I. Minor variations of the vertebral column pp. 112–141 23 figs. II. Undulated and its modifiers pp. 142–173 23 figs. J. Genetics London **50** 1950.

574.—Gruneberg, H. Skeletal polymorphism in the mouse. Moderne Biologie Festschr. 60-Geburtstag H. Nachtsheim Berlin 1950 pp. 43–54 8 figs.

Gruneberg, H. *vide* Carter.

575.—Guggisberg, C. A. W. Game Animals of Eastern Africa. Nairobi, 1950 64 pp. figs. [N.V. Review—Nature in E. Africa (2) No. 3 1950 p. 17.]

Guilbert, H. R. *vide* Kidwell.

576.—Guilday, J. E. Winter fetus in the Little Brown Bat, *Myotis lucifugus*. J. Mammal. Baltimore **31** 1950 pp. 96–97.

577.—Gut, S. Bobr (Castor fiber L.) Chron. Przyn. Ojczystu Kraków 1950 **6** 1–2 pp. 32–39 2 figs.

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579.—Haffner K. v. Ergebnisse der histologischen Untersuchung der von E. Mohr beschriebenen Schwanzregenerate von Myoxiden (Bilchen). Zool. Anz. Leipzig **135** 1941 pp. 66–75 7 figs.

580.—Hagenbeck, L. Elefanten im Zirkus und Zoo. Zool. Garten, Leipzig **17** 1950 pp. 60–66.

581.—Haggqvist, G. Nervenfaserkaliber bei Tieren verschiedener Grösse. Anat. Anz. Jena **96** 1948 pp. 398–412 14 figs.

582.—Haggqvist, G. and Bane, A. Polyploidy in rabbits, induced by colchicine. Nature, London **165** 1950 pp. 841–843 1 fig.

583.—Haggqvist, G. and Bane, A. Studies in triploid rabbits produced by colchicine. Hereditas, Lund **36** 1950 pp. 329–334 2 figs.

584.—Haggqvist, G. and Bane, A. Chemical induction of polyploid breed of mammals. K. svenska Vetensk. Akad. Handl. (4) **1** 10 1950 pp. 1–12 1 pl. 1 fig.

585.—Haines, R. W. The inter-orbital septum in mammals. J. Linn. Soc. London **41** 1950 pp. 585–607 40 figs.

586.—Haines, R. W. The flexor muscles of the forearm and hand in lizards and mammals. J. Anat. London **84** 1950 pp. 13–29 12 figs.

587.—Hall, E. R. and Dalquest, W. Geographic range of the Hooded skunk, *Mephitis macroura*, with description of a new subspecies from Mexico. Univ. Kansas Publ. Mus. Nat. Hist. **1** 1950 pp. 575–580 1 fig.

588.—Hall, E. R. and Dalquest, W. *Pipistrellus cinnamomeus* Miller 1902 referred to the genus *Myotis*. Univ. Kansas Publ. Mus. Nat. Hist. **1** 1950 pp. 581–590 5 figs.

589.—Hall, E. R. and Dalquest, W. A synopsis of the American Bats of the genus *Pipistrellus*. Univ. Kansas Publ. Mus. Nat. Hist. **1** 1950 pp. 591–602 1 fig.

590.—Hall, E. R. and Villa R. B. Lista anotada de los mamíferos de Michoacan, Mexico. An. Inst. Biol. Mex. **21** pp. 159–214 4 figs.

Hall, E. R. *vide* Dalquest.

Hall, O. *vide* Davis, D. E.

591.—Halloran, A. H. and Blanchard, W. E. Bighorn ewe associates with cattle on Kofa Game Range, Arizona. J. Mammal. Baltimore **31** 1950 pp. 463–464.

592.—Hamerstrom, F. N. Jr. and Camburn, F. L. Weight relationships in the George Reserve deer herd. J. Mammal. Baltimore **31** 1950 pp. 5–17 3 figs.

593.—Hamilton, W. J. Jr. The Prairie Deer Mouse in New York and Pennsylvania. *J. Mammal.* Baltimore **31** 1950 p. 100.

594.—Hammond, J. Polled cattle. *Endeavour* London **9** 1950 pp. 85-90 8 figs.

595.—Hammond, J. Measuring growth in farm animals. *Proc. roy. Soc. London* **137B** 889 1950 pp. 452-461 13 figs.

596.—Hancock, J. Studies in monozygotic cattle twins: I. Organization of twin collection **30A** pp. 257-270. II. Recognition of monozygotic twins **31A** pp. 1-35 28 figs. *N.Z. J. Sci. Tech.* 1950.

597.—Hancock, J. Congenital photosensitivity in Southdown sheep—a new sub-lethal factor in sheep. *N.Z. J. Sci. Tech.* **32A** 1 1950 pp. 16-24 3 figs.

598.—Handley, G. L. The Natal Red Hartebeeste—a dwindling species. *African Wild Life, Johannesburg* **4** 1950 pp. 107-111.

Hankins, R. M. *vide* Baker.

599.—Hanson, J. Differentiation of mammalian epidermis in tissue culture. *J. Anat. London* **84** 1950 pp. 30-31.

600.—Hanström, B. Däggdjur, faglar, kråldjur och groddjur i det Hollands Naturskyddsforening tillhörande hedreservatet i Steninge. *Fauna och Flora, Uppsala* **5-6** 1950 pp. 189-207 4 figs. [English summary.]

601.—Hanzak, J. and Rosicky, B. A contribution to our knowledge of some representatives of the Orders of the Insectivora and Rodentia in Slovakia. *Sborn. nar. Mus. Praha* **5B** Zool. 2 1949 pp. 1-77 10 figs.

Harbert, F. H. *vide* Buss.

602.—Hard, W. L. and Hawkins, R. K. The role of the bile capillaries in the secretion of phosphatase by the Rabbit liver. *Anat. Rec.* **106** 1950 pp. 395-411 13 figs.

603.—Hard, W. L. and Peterson, A. C. The distribution of choline esterase in nerve tissue of the dog. *Anat. Rec.* **108** 1950 pp. 57-69 2 pls.

604.—Hardberger, F. M. Effects of a constant high temperature (32.2° C.)

on the testes and spermatozoa of the albino mouse. *Proc. Louisiana Acad. Sci.* **13** 1950 pp. 35-41 6 figs.

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606.—Hardy, E. Chartley Cattle. *Field London* **196** 1950 p. 342 1 fig.

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608.—Hardy, R. A new Tree Squirrel from central Utah. *Proc. Biol. Soc. Washington* **63** 1950 pp. 13-14.

609.—Harpst, H. C. and Martin, A., Jr. Some chromosomes of rodents. *Proc. Pa Acad. Sci.* **24** 1950 pp. 36-39 3 figs.

610.—Harris, E. S. The sites of alkaline phosphatase in dentinogenesis. *Anat. Rec.* **107** 1950 pp. 105-119, 2 pls.

611.—Harris, G. W. Hypothalamo—hypophysial connexions in the Cetacea. *J. Physiol. Cambridge* **111** 3-4 1950 pp 361-372 2 pls.

612.—Harris, G. W. and Johnson, R. T. Regeneration of the hypophysial portal vessels, after section of the hypophysial stalk in the Monkey (*Macacus rhesus*). *Nature London* **165** 1950 pp. 819-820.

Harris, G. W. *vide* Cross.

Harrison, D. L. *vide* Hayman.

613.—Harrison, J. L. Some Malayan Shrews. *Malay Nat. J.* **5** 1950 pp. 21-24 1 fig.

614.—Harrison, J. L. A survey of common Squirrels. *Malay Nat. J.* **5** 1950 pp. 79-83.

615.—Harrison, J. L. Two little known animals. *Malay Nat. J.* **5** 1950 p. 100 1 pl.

616.—Harrison, J. L. The occurrence of albino and melanic rats. *J. Bombay nat. Hist. Soc.* **49** 1950 pp. 548-549

617.—Harrison, J. L. and Lim, B. L. Notes on some small mammals of Malaya. *Bull. Raffles Mus.* No. 23 1950 pp. 300-309.

618.—Harrison, J. L. and Traub, R. Rodents and insectivores from Selangor, Malaya. *J. Mammal.* Baltimore **31** 1950 pp. 337-346.

619.—Harrison, J. L. and Woodville, H. C. The growth of a tame specimen of the Indian Mole Rat, *Bandicota bengalensis* (Rodentia, Muridae), and an attempt to estimate the age-structure of a wild population. *J. Zool. Soc. India* **2** 1950 pp. 14-17.

620.—Harrison, J. L. and Woodville, H. C. Notes on the feeding habits of House-Rats in Rangoon, Burma. *Ann. appl. Biol.* London **37** 1950 pp. 296-304 4 figs.

Harrison, J. L. *vide* Audy.

Harrison, R. G. *vide* Cain.

621.—Harrison, T. Squirrels from the Kelabit uplands. *Sarawak Mus. J.* **5** 1950 pp. 297-299.

Harshfield, G. S. *vide* Johnson.

622.—Hart, J. S. The effect of humidity and temperature on carbon dioxide production of deer mice and on heat transmission through their fur. *Canad. J. Res.* Ottawa **28D** 1950 pp. 280-284.

623.—Hart, J. S. Interrelations of daily metabolic cycle, activity, and environmental temperature of mice. *Canad. J. Res.* **28D** 1950 pp. 293-307 1 pl. 4 figs.

624.—Hartman, C. G. A possible case of superfetation? *J. Mammal.* Baltimore **31** 1950 p. 94.

625.—Hartman, C. G. Playing "Possum." *Scient. Amer.* N.Y. **182** 1950 pp. 52-55 figs.

626.—Hartwig, H. Die makroskopischen und mikroskopischen Merkmale und die Funktion der Pferdemiß in verschiedenen Lebensaltern und bei verschiedenen Rassen. *Z. mikr. anat. Forsch.* Leipzig **55** 1950 pp. 287-410 23 figs.

627.—Hassells-Yates, G. A. Rats preying on worms. *Country Life* London **107** 1950 p. 1386.

628.—Hatt, R. T. and Villa, R. B. Observaciones sobre algunos mamíferos de Yucatan y Quintana Roo. *Anal. Inst. Biología Mexico* **21** 1950 pp. 215-240 9 figs 2 maps.

Hatter, J. *vide* Cowan.

629.—[Havesson, Y. I.] [The camels belonging to the genus *Paracamelus*.] *C.R. Acad. Sci. Moscow N.S.* **70** 1950 pp. 917-920 2 figs. [In Russian.]

Hawkins, R. K. *vide* Hard.

630.—Hawkins, T. H. Musk and the Musk Deer. *Nature* London **166** 1950 p. 262.

Hayashi, K. *vide* Nishiwaki.

631.—Hayes, W. J., Jr. and Gaines, T. B. Control of Norway rats with residual rodenticide warfarin. *Public Hlth. Rep. Wash.* **65** 47 1950 pp. 1537-1555 2 figs.

632.—Hayman, R. W. Two new African Squirrels. *Ann. Mag. nat. Hist.* (12) **3** 1950 pp. 262-264.

633.—Hayman, R. W. Guerezas or Colobus monkeys. *Zoo Life* London **5** 1950 pp. 92-95 1 fig.

634.—Hayman, R. W. and Harrison, D. L. Notes on some Mammals newly recorded from Arabia. *Ann. Mag. nat. Hist.* (12) **3** 1950 pp. 417-419.

635.—Hayman, R. W. and Jones, T. S. A note on pattern variation in the Vespertilionid Bat *Glauconycteris poensis*. *Ann. Mag. nat. Hist.* (12) **3** 1950 pp. 761-763.

636.—Hayne, D. W. Apparent home range of *Microtus* in relation to distance between traps. *J. Mammal.* Baltimore **31** 1950 pp. 26-39 2 figs.

637.—Hayne, D. W. Reliability of laboratory-bred stocks as samples of wild populations, as shown in a study of the variation of *Peromyscus polionotus* in parts of Florida and Alabama. *Contr. Lab. Vertebr. Biol. Univ. Michigan* No. **46** 1950 pp. 1-56 5 figs.

638.—Hazelwood, A. Mammals (Yorkshire). *Naturalist* London 1950 No. 832 pp. 25-26.

639.—Heberer, G. Das Präsaapiens-Problem (Mit besonderer Berücksichtigung der Funde von Fontéchevade und Quinzano). *Moderne Biologie. Festschr.* 60 Geburtstag H. Nachtsheim Berlin 1950 pp. 131-162 1 pl. 7 figs.

640.—**Hebert**, S. Les phosphatases alcalines de l'intestin. Étude histochimique expérimentale. Arch. Biol. Liège **61** 1950 pp. 235–289 2 pls.

641.—**Hediger**, H. Die zweite Elchgeburt im Berner Tierpark (1941). Zool. Gart. Lpz. **16** 1949 pp. 93–110 12 figs. 4 tabs.

642.—**Hediger**, H. Saugetier-Territorien und ihre Markierung. Bijdr. Dierk. **28** 1949 pp. 172–184 12 figs.

643.—**Hediger**, H. Wild Animals in Captivity, London (Butterworth) 1950 207 pp. frontis. 33 figs.

644.—**Hediger**, H. Gefangenschaftsgeburt eines afrikanischen Springhasen, *Pedetes caffer*. Zool. Garten Leipzig **17** 1950 pp. 166–169 7 figs.

645.—**Hediger**, H. Das Okapi als ein Problem der Tiergartenbiologie. Acta Tropica Basel **7** 1950 pp. 97–109 5 figs.

646.—**Hediger**, H. La capture des éléphants au Parc National de Garamba. Bull. Inst. R. Colon. Belge Bruxelles **21** 1950 pp. 218–226.

647.—**Heinzerling**, O. Über Heilung von Knochenbrüchen bei freilebenden Tieren. Zool. Anz. Leipzig **140** 1942 pp. 49–57 4 figs.

648.—**Heisch**, R. B. A case of rat-bite fever in Kenya Colony, and the discovery of rodents naturally infected with *Spirillum minus* (Carter). J. trop. Med. London **53** 1950 pp. 33–39.

649.—**Heldt**, H. Cétacés.—IncurSIONS de Baleinoptères sur les Cotes Tunisiennes. Ann. Biol. Copenhagen **6** 1949 [1950] p. 80.

650.—**Heller**, E. Eichhörnchen und Nesterraub. Zool. Gart. Leipzig **17** 1950 p. 254.

651.—**Heller**, E. Kann der Hund ein Bild deuten? Zool. Gart. Lpz. **17** 1950 pp. 254–255.

652.—**Hemming**, F. Reforms in zoological nomenclature adopted by the Thirteenth International Congress of Zoology in Paris July 1948. Rept. 18th Sess. Intern. Geol. Congress Gt. Britain 1950 15 pp. 77–83.

653.—**Hemming**, F. The word "Cercopithecus" validated as a generic name as from Linnaeus, 1758 (Class

Mammalia, Order Primates). Bull. zool. Nomencl. London **4** 1950 pp. 310–311.

Hemmings, W. A. *vide* Brambell.

654.—**Henderson**, C. R. P. Giant Sable Antelopes. Country Life London **107** 1950 p. 671.

Henderson, M. *vide* Brambell.

Hendrickson, G. O. *vide* Wiseman.

655.—**Hensley**, A. L. and **Fox**, B. C. Experiments on the management of Colorado River Beaver. Calif. Fish Game **34** 1948 pp. 115–131 12 figs.

656.—[**Heptner**, V. G. and **Shukurov**, G. S.] [The systematics and distribution of *Microtus afghanus* Thos.] C.R. Acad. Sci. Moscow N.S. **74** 1950 pp. 149–152 1 fig. [In Russian.]

657.—**Herlocker**, E. Mountain Beaver.—Biological Curiosity. Audubon Mag. **52** 1950 pp. 387–390 4 figs.

658.—**Herman**, C. M. and **Bischoff**, A. I. Papilloma, skin tumors in Deer. Calif. Fish Game **36** 1950 pp. 19–20.

659.—**Hermann**, J. A. The mammals of the Stockton Plateau of north-eastern Terrell County, Texas. Texas J. Sci. **2** 1950 pp. 368–393 13 figs. 1 table.

660.—**Herre**, W. Über vergleichende Untersuchungen an Hypophysen. Zool. Anz. Leipzig **141** 1943 pp. 33–34.

661.—**Herre**, W. Zur Frage der Kausalität von Domestikationserscheinungen. Zool. Anz. Leipzig **141** 1943 pp. 196–214 15 figs.

662.—**Herre**, W. Zur Abstammung und Entwicklung der Haustiere. I. Über das bisher älteste primigene Hausrind Nordeuropas. Remane and others Verh. Deuts. Zool. in Kiel 1948 Leipzig (Geest & Portig) 1949 pp. 312–324 7 figs.

663.—**Herre**, W. Zur Abstammung und Entwicklung der Haustiere. II. Betrachtungen über vorgeschichtliche Wildschweine Mitteleuropas. Remane and others Verh. Deuts. Zool. in Kiel 1948 Leipzig (Geest & Portig) 1949 pp. 324–333 3 figs.

664.—**Herre**, W. Zur Abstammung und Entwicklung der Haustiere. III. Die Haustierreste mittel alterlicher

Siedlungen der Hamburger Altstadt. Zool. Garten. Leipzig **17** 1950 pp. 103-121 1 fig.

665.—Herre, W. Neue Ergebnisse zoologischer Domestikationsforschung. Herre Verh. Deuts. Zoologen in Mainz 1949 Leipzig (Geest & Portig) 1950 pp 40-54 6 figs.

666.—Hershkovitz, P. Mammals of northern Colombia, preliminary report No. 6 : Rabbits (Leporidae), with notes on the classification and distribution of the South American forms. Proc. U.S. Nat. Mus. **100** 1950 pp. 327-375.

667.—Hesterberg, G. A. Chipmunk eats frog. J. Mammal. Baltimore **31** 1950 pp. 350-351.

668.—Hewett, H. P. Deer in the South-West. Field London **195** 1950 p. 481.

669.—Hibbard, C. W. Mammals of the Rexroad formation from Fox Canyon, Kansas. Contr. Mus. Paleont. Univ. Michigan **8** 1950 pp. 113-192 5 pls. 23 figs.

670.—Hibbard, C. W. and Keenmon, K. A. New evidence of the Lower Miocene age of the Blacktail Deer Creek formation in Montana. Contr. Mus. Paleont. Univ. Michigan **8** 1950 pp. 193-204 3 figs.

671.—Hibbard, C. W. and Villa, R. B. El Bizonte gigante de Mexico. An. Inst. Biol. Mex. **21** 1950 pp. 243-254 3 pls.

672.—Hibbard, C. W. and Wilson, J. A. A new rodent from subsurface stratum in Bee County, Texas. J. Paleont. Menasha Wis. **24** 1950 pp. 621-623 1 text-fig.

673.—Hiestand, W. A. and others. The comparative hypoxic resistance of hibernators and non-hibernators. Physiol. zool. Chicago **23** 1950 pp. 264-268 tabs.

Hilditch, T. P. *vide* Achaya.

674.—Hill, A. V. The dimensions of animals and their muscular dynamics. Sci. Progr. London **38** 1950 pp. 209-230 3 figs. and Proc. Roy. Instn. Gt. Britain **34** 1950 pp. 450-471 4 figs.

Hill, A. V. *vide* Colam.

Hill, J. E. *vide* Raven.

675.—Hill, J. P. and de Beer, G. R. Development of the Monotremata—Part VII. The Development and structure of the Egg-tooth and the Caruncle in the Monotremes, and on the occurrence of vestiges of the Egg-tooth and Caruncle in Marsupials. Trans. Zool. Soc. London **26** 1950 pp. 503-544 10 pls.

676.—Hill, W. C. O. The alimentary system of the Angwantibo, *Arctocebus calabarensis* (Smith). Proc. Zool. Soc. Lond. **120** 1950 pp. 49-72 3 pls. 5 figs.

677.—Hill, W. C. O. Man's relation to the apes. Man **50** 1950 pp. 161-162.

678.—Hill, W. C. O. Primates in the Royal Scottish Museum. Part I, Strepsirhini and Tarsiodea. Proc. Roy. Physic. Soc. **23** 1950 pp. 155-164 3 pls.

679.—Hill, W. C. O. and Matthews, L. H. Supplementary note on the male external genitalia of *Gorilla*. Proc. Zool. Soc. Lond. **120** 1950 pp. 311-316 1 pl. 3 figs.

Hillemann, H. H. *vide* Adams.

Hillemann, H. H. *vide* Beatty.

Hillemann, H. H. *vide* Purdy.

680.—Hindle, E. Birth of an Elephant in the Rome Zoo. Zoo Life London **5** 1950 pp. 7-9 2 figs.

681.—Hindle, E. Mr. Henry G. Maurice, C.B. Nature London **165** 1950 pp. 997-998.

682.—Hindle, E. Wild animals in captivity. Discovery Norwich **11** 1950 pp. 311-313, 330 1 fig.

683.—Hinze, G. Der Biber, Körperbau und Lebensweise, Verbreitung und Geschichte. Berlin 1950 pp. 216 31 pls. 94 figs.

684.—Hirokawa, S. and Egawa, S. Zur Fossa rhomboides des indischen Elefanten. Gegenbaurs Jb. **85** 1941 pp. 540-550 1 fig.

Hirokawa, S. *vide* Egawa.

685.—Hislop, J. A. The story of a Tapir. Malayan Nature J. **5** 1950 pp. 92-95 1 pl.

Hoar, W. S. *vide* Cowan.

Hock, R. *vide* Scholander.

686.—Hodge, W. H. Golden fleece of the Andes. Nat. Hist. N.Y. 59 1950 pp. 200-207 13 figs.

Hodgkin, E. P. *vide* Feakes.

Hodson, A. C. *vide* Eddy.

687.—Hoebel, E. and A. Man in the primitive world. An introduction to anthropology. New York 1949 pp. xii + 543 73 figs. [N.V. Review Amer. J. Phys. Anthropol. Philad. 8 1950 p. 499.]

688.—Hoffmeister, D. F. A concentration of Lemming mice (*Synaptomys cooperi*) in central Illinois. Trans. Ill. Acad. Sci. 40 1947 pp. 190-193 1 fig.

Hoffmeister, D. F. *vide* Goodpaster.

689.—Hoffstetter, R. *Masthodon Chimborazi*—Proaño. Bol. Inform. Cient. Nac. Quito 3 1950 pp. 372-375.

690.—Hoffstetter, R. Algunas observaciones sobre los caballos fosiles de la America del sur. *Amerhippus* gen. nov. Bol. Inform. Cient. Nacion. Quito 3 1950 pp. 426-454 4 figs.

691.—Hoffstetter, R. Observaciones sobre los Mastodontes de Sud America y especialmente del Ecuador. *Haplo-mastodon*, subgen. nov. de *Stegomastodon*. Pub. Esc. Polit. nacion. Quito 1950 1 pp. 1-51 6 figs.

692.—Hoier, R. Les Hippopotames au Parc Albert. Zooleo. Leopoldville N.S. No. 5 1950 pp. 15-21 4 figs.

693.—Hoier, R. A travers plaines et volcans au Parc National Albert. Publ. Inst. Pares nat. Congo belge. Brussels 1950 p. 172 24 pls. [N.V. Review Mammalia Paris 14 1950 p. 184.]

694.—Hollander, W. F. and Strong, L. C. Intra-uterine mortality and placental fusions in the Mouse. J. exp. Zool. Philadelphia 115 1950 pp. 131-149 11 figs.

695.—Hoogstraal, H. Deamer the Lemur. Animal Kingdom New York 53 1950 pp. 102-109 7 figs.

696.—Hoogstraal, H. Mission : Malaria. Nat. Hist. N.Y. 59 1950 pp. 104-111 140-141 13 figs.

697.—Hooijer, D. A. Het belang van de vertebraten voor de stratigraphie van het nederlandse kwartair ouder dan de ijsbedekking. Geol. Mijnbouw The Hague 12 1 1950 pp. 12-13.

698.—Hooijer, D. A. Man and other mammals from Toalian sites in South-western Celebes. Verh. K. ned. Akad. Wet. Amsterdam (2) 46 1950 2 pp. 1-162 3 pls.

699.—Hooijer, D. A. The fossil Hippopotamidae of Asia, with notes on the recent species. Zool. Verh. Leiden 8 1950 pp. 1-124 22 pls. 5 figs.

700.—Hooijer, D. A. A further note on the canines of *Celebochoerus*. Zool. Meded. Leiden 30 1950 pp. 307-308 1 pl.

701.—Hooper, E. T. Use dermestid beetles instead of cooking pots. J. Mammal. Baltimore 31 1950 pp. 100-102.

702.—Hooper, E. T. A new subspecies of harvest mouse (genus *Reithrodontomys*) from Chiapas, Mexico. J. Wash. Acad. Sci. 40 1950 pp. 418-419.

703.—Hooper, E. T. Descriptions of two subspecies of harvest mice (genus *Reithrodontomys*) from Mexico. Proc. Biol. Soc. Washington 63 1950 pp. 167-170.

Hooper, E. T. *vide* Rinker.

704.—Hooper, J. H. D. Extending the technique of bird study to bats: banding and weighing the Horseshoe bats in some Devon caves. Ill. London News 216 1950 pp. 990-991 8 figs.

705.—Hooper, W. M. The bats of Buckfastleigh Caves. Cave Science 1 1947 pp. 26-27. [Erratum p. 64.]

706.—Hooper, W. M., J. H. D. and Shaw, T. R. Some observations on the distribution and movements of cave-dwelling bats in Devonshire. Naturalist London No. 835 1950 pp. 149-157 2 figs. tables.

707.—Hopkins, G. H. E. Report on rats, fleas and plague in Uganda. Entebbe 1949 pp. 1-52 tables 2 maps.

708.—Horner, B. E. Trichobezoars (hair balls) in *Peromyscus*. J. Mammal. Baltimore 31 1950 pp. 94-95.

709.—Hornung, V. Lautäusserungen des Maulwurfs *Talpa europaea* L. Zool. Gart. Lpz. 16 1950 p. 208.

Hoskins, C. R. *vide* Oakley.

710.—**Hosokawa, H.** On the Cetacean larynx, with special remarks on the laryngeal sack of the Sei Whale and the aryteno-epiglottideal tube of the Sperm Whale. *Sci. Rep. Whales Res. Tokyo* **3** 1950 pp. 23–62 31 figs.

711.—**Housse, R. P. R.** Las zorras de Chile o chacales Americanos. *Rev. Univ. Chile* **34** 1 An. Acad. Chilena Cienc. nat. No. **14** 1949 pp. 33–56.

Houth, F. C. *vide* Garber.

712.—**Howard, W. E.** Winter fecundity of caged male White-footed Mice in Michigan. *J. Mammal. Baltimore* **31** 1950 pp. 319–321.

713.—**Howell, A. E.** Steinbock in the Gran Paradiso. *Country Life London* **107** 1950 p. 1724.

714.—**Hoyer, P. V. and Lane, R. M.** Some variations in the superficial muscles of the back of the albino Rat (*Rattus norvegicus*). *J. Mammal. Baltimore* **31** 1950 pp. 288–289 1 fig.

715.—**Hoyt, S. Y. and S. F.** Gestation period of the Woodchuck. *J. Mammal. Baltimore* **31** 1950 p. 454.

716.—**Hudson, G. E.** Cryptorchid Elk (*Cervus canadensis*) in the Blue Mountains of Washington. *J. Mammal. Baltimore* **31** 1950 p. 464.

717.—**Hudson, W. P.** Rats or hedgehogs? *Country Life London* **107** 1950 p. 1644.

718.—**Huergo, E. M. and Gai, A. G.** Homenaje a la memoria del extinto paleontologo Lucas Kraglievich. *An. Soc. cient. argent. Buenos Aires* **149** 1950 pp. 129–135.

719.—**Huestis, R. R. and Willoughby, R.** Heterochromia in *Peromyscus*. A study of mixed black and red eyes in the deer mouse. *J. Hered.* **41** 11 1950 pp. 287–290 1 fig.

720.—**Hughes, T. P. and Perlomagora, A.** The application of immunological tests of sera from captured wild animals to the study of yellow fever epidemiology. *Amer. J. trop. Med.* **30** 1950 pp. 835–853.

721.—**Hunt, C.** A Mediterranean memory—Barbary Ape. *Zoo Life London* **5** 1950 pp. 56–58 1 fig.

722.—**Hunt, E. C.** Some observations on a Flying Lemur. *Malayan Nature J.* **5** 1950 pp. 35–36.

723.—**Hunt, G. S.** Aquatic activity of a Snowshoe Hare. *J. Mammal. Baltimore* **31** 1950 pp. 193–194.

724.—**Hunter, G. N. and Kinghorn, R. G.** Mountain Sheep drive Mule Deer from food. *J. Mammal. Baltimore* **31** 1950 p. 193.

725.—**Hurrell, H. G.** First report on Devonshire mammals. *Rep. Devon. Ass. Adv. Sci.* **82** 1950 pp. 117–123 1 fig.

726.—**Husson, A. M.** Enige opmerkingen over de muizenfauna van de Sint Pietersberg en omgeving. *Natuurk. Maandbl.* **39** 1950 pp. 43–46.

727.—**Husson, A. M.** Some remarks on prognathism with special reference to the skull of *Pongo pygmaeus* (Hoppius). *Proc. K. Ned. Akad. Wet.* **53** 1950 pp. 199–210 2 figs.

728.—**Hutchinson, G. E.** Survey of existing knowledge of biochemistry. 3. The biochemistry of vertebrate excretion. *Bull. Amer. Mus. nat. Hist.* **96** 1950 pp. i–xviii 1–554 16 pls. 103 figs. tables.

729.—**Huter, F.** Eine dreibeinige Wanderratte. *Natur u. Volk* **80** 1950 pp. 299–301 3 figs.

730.—**Hyde, H. P. T.** African Elephants as geological indicators. *Nature London* **165** 1950 p. 326.

731.—**[Ignatyeva, L. P.]** [Regeneration of somatic musculature in mammals.] *C.R. Acad. Sci. Moscow N.S.* **75** 1950 pp. 583–586 4 figs. [In Russian.]

732.—**Imler, R. H. and Sarber, H. R.** Harbor seals and sea-lions in Alaska. *U.S. Dept. Int. (Fish Wildlife Serv.) Spec. Sci. Rep.* **28** 1947 pp. 1–23 6 figs.

733.—**Imrie, D.** Rabbit extermination. *Field London* **195** 1950 pp. 475 2 figs.

734.—**Ingles, L. G.** Pigmental variations in populations of pocket gophers. *Evolution Lancaster Pa.* **4** 1950 pp. 353–357 1 fig.

735.—**Ionides, C. J. P.** Pages from a Tanganyika Game Ranger's notebook. *Tanganyika Notes & Rec. No.* **29** 1950 pp. 62–67.

736.—Irving, J. T. Experimental enamel hypoplasia. *Nature London* **165** 1950 pp. 407–408 1 fig.

737.—Irving, L. Measurement of some physiological reactions to Arctic conditions. *Ann. N.Y. Acad. Sci.* **51** 1950 pp. 1045–1050.

Irving, L. *vide* Scholander.

738.—Ishikawa, Y. Protein digestive power of Sperm Whale pancreatic enzyme. II. *Sci. Rep. Whales Res. Inst. Tokyo* **3** 1950 pp. 71–78.

739.—Iso, M. Über die Thalamuskerne der Fledermaus. *Gegenbaurs Jb.* **86** 1941 pp. 343–381 11 figs.

740.—Issel, W. Ökologische Untersuchungen an der Kleinen Hufeisennase (*Rhinolophus hipposideros* (Bechstein)) in mittleren Rheinland und unteren Altmühltal. *Zool. Jahrb. Jena (Syst.)* **79** 1950 pp. 71–92 3 figs.

741.—Issel, W. Zur Kenntnis der gewimperten Fledermaus, *Myotis emarginatus* (Geoffroy), in Mitteleuropa. *Bonn. Zool. Beitr.* **1** 1950 pp. 2–10 4 figs.

742.—Iyer, P. A. R. Studies on reproduction in bats. *Proc. nat. Inst. Sci. India* **16** 1950 pp. 360–362.

743.—Jackson, J. K. and Owen, J. S. Animal life in the Imatong Mountains. *Sudan Wild Life* **1** No. 4 1950 pp. 3–10.

744.—Jaeger, E. C. The Coyote as a seed distributor. *J. Mammal. Baltimore* **31** 1950 pp. 452–453.

745.—Jahn, G., Bergersen, B. and Paulsen, H. B. *Int. Whaling Statistics Oslo* 1950 23 pp. 65, 24 pp. 71.

746.—James, J. Wild life on the doorstep. *Field London* **195** 1950 pp. 551–552 4 figs.

747.—James, Sir A. Rhodesian Leopards. *Field London* **195** 1950 p. 805 1 fig.

748.—Jameson, E. W., Jr. The external parasites of the Short-tailed Shrew, *Blarina brevicauda* (Say). *J. Mammal. Baltimore* **31** 1950 pp. 138–145.

749.—Jameson, E. W., Jr. Determining fecundity in male small mammals. *J. Mammal. Baltimore* **31** 1950 pp. 433–436 1 fig.

750.—Jayaram, K. C. Some observations on the knowledge of ancient Hindus regarding animal life during the early Jain and Buddhist period (circa 600 B.C.). *J. Zool. Soc. India* **2** 1950 pp. 34–38.

751.—Jeannel, R. Hautes montagnes d'Afrique. *Publ. Mus. nat. Hist. nat. Paris Suppl. No. 1* 1950 pp. 1–253 44 pls. 44 figs.

752.—Jenkins, J. H. and Johnston, D. W. Additional records of the Jumping Mouse, *Zapus hudsonius*, from Georgia. *J. Mamm. Baltimore* **31** 1950 p. 461.

Jenkins, J. H. *vide* Schantz.

753.—Jennings, H. Lions at close quarters. *Field London* **196** 1950 p. 1013.

Jimbo, H. *vide* Mizue.

754.—Jobaert, A. J. Recensement de la vie animale sauvage. *Zooleo. Leopoldville N.S.* No. 5 1950 pp. 25–27.

755.—Jobaert, A. J. Comment se gardent les animaux sauvages. *Zooleo Leopoldville N.S.* No. 7 1950 pp. 13–16.

756.—Jobaert, A.-J. Le problème posé par la disparition progressive des troupeaux de gros gibier dans certaines régions de l'Afrique. *Proc. & Pap. Internat. tech. Conf. Protect Nature Paris* **1949** 1950 p. 444.

Johnson, C. W. *vide* Ecke.

757.—Johnson, D. H. *Myotis subulatus leibii* in Virginia. *J. Mammal. Baltimore* **31** 1950 p. 197.

758.—Johnson, L. E., Harshfield, G. S. and McCone, W. Dwarfism, an hereditary defect in beef cattle. *J. Hered.* **41** 7 1950 pp. 177–181 3 figs.

Johnson, F. *vide* Scholander.

Johnson, R. T. *vide* Harris.

759.—Johnson, S. E. A comparative study of the thyroid follicle. *Studies honoring Trevor Kincaid*, edited by M. H. Hatch, Seattle (Univ. Washington Press) 1950 pp. 35–40 2 pls.

Johnston, D. W. *vide* Jenkins.

760.—Johnston, H. L. Rats preying on worms. *Country Life London* **107** 1950 p. 1644.

- 761.**—Johnstone, G. Height of Red Deer. Field London **195** 1950 p. 969.
- 762.**—Johnstone, G. Deer in the South-west. Field London **195** 1950 pp. 48–49 2 figs. maps.
- 763.**—Johnstone, G. A close season for Deer? Country Life London **107** 1950 p. 1215–1216.
- 764.**—Jones, F. L. Recent records of the Wolverine (*Gulo luscus luteus*) in California. Calif. Fish Game **36** 1950 pp. 320–322 1 fig.
- 765.**—Jones, F. L. A survey of the Sierra Nevada Bighorn. Sierra Club Bulletin **35** 1950 pp. 29–76 12 figs.
- 766.**—Jones, G. F. A preliminary report on an endourethral cast in Beaver. Murrelet Seattle **31** 1950 p. 15.
- 767.**—Jones, J. K., Jr. Another record of a swimming Jumping Mouse. J. Mammal. Baltimore **31** 1950 pp. 453–454.
- 768.**—Jones, N. Where Deer rank as vermin. Country Life London **103** 1950 p. 220.
- Jones, T. S. *vide* Hayman.
- 769.**—Jones-Seaton, A. Etude de l'organisation cytoplasmique de l'oeuf des Rongeurs, principalement quant à la basophilie ribonucléique. Arch. biol. Liège **61** 1950 pp. 291–244 2 pls. 31 figs.
- 770.**—Jones-Seaton, A. A study of cytoplasmic basophilia in the eggs of the rat and some other mammals. Ann. Soc. zool. Belg. **80** 1950 pp. 76–86 3 figs.
- Jongh, S. E. *de vide* Graaf.
- Jonsgard, A. *vide* Ruud.
- 771.**—Jorpes, J. E. The insulin content of whale pancreas. Hvalrad. Skr. **35** 1950 pp. 1–15 3 figs.
- 772.**—Judd, W. W. Mammal host records of Acarina and Insecta from the vicinity of Hamilton, Ontario. J. Mammal. Baltimore **31** 1950 pp. 357–358.
- 773.**—Judd, W. W. Mammals observed in the Yukon Territory, Canada, in the summer of 1949. J. Mammal. Baltimore **31** 1950 pp. 360–361.
- 774.**—Junge, G. C. A. On a specimen of the rare Fin Whale, *Balaenoptera edeni* Anderson, stranded on Pulu Sugi near Singapore. Zool. Verh. Leiden 1950 No. 9 pp. 1–26 9 pls.
- 775.**—Kahmann, H. Lebensbild der Kurzohr-Maus in den Alpen. Natur u. Volk **80** 1950 pp. 71–77 6 figs.
- 776.**—Kahmann, H. and Frisch, O. von. Zur Ökologie der Haselmaus (*Muscardinus avellanarius*) in den Alpen. Zool. Jahrb. Jena **73** 1950 pp. 531–546 7 figs.
- 777.**—Kalela, O. Zur Periodizität im Massenwechsel arktisch - hochborealer Kleinnager. Arch. Soc. zool. bot. fenn. 'Vanamo' Helsinki **3** 1949 pp. 169–178.
- 778.**—Kalela, O. Tunturisopulin vaeluksista ja niiden biologisesta merkityksestä. Luonnen Tutkija Vanamo **54** 1950 1 pp. 1–5 1 fig.
- 779.**—Karison, E. L. A new type of cage for recording daily activity rhythms of small animals. J. Mammal. Baltimore **31** 1950 pp. 416–420 2 figs.
- 780.**—Karpinski, J. J. La régénération de l'ours dans la forêt de Bialowieza. Bijdr. Dierk. **28** 1949 pp. 218.–236 4 pls.
- 781.**—[Kasyamenko, V. G.] [Structure of posterior extremities in some mammals.] Trud. Inst. Zool. Akad. Nauk. Ukr. R.S.R. **1** 1948 pp. 39–69 8 figs. [In Russian.]
- 782.**—[Kasyanenko, V. G.] [Peculiarities in knee structure in some mammals.] Trud. Inst. Zool. Akad. Nauk. Ukr. R.S.R. **1** 1948 pp. 70–83 4 figs. [In Russian.]
- 783.**—[Kasyamenko, V. G.] [Structural peculiarities in foot in Duplicitata.] Trud. Inst. Zool. Akad. Nauk. Ukr. R.S.R. **2** 1949 pp. 58–69 3 figs. [In Russian.]
- 784.**—Kaye, E. M. C. Rats as hoarders. Country Life London **107** 1950 p. 1727.
- 785.**—Kayser, C. Le sommeil hibernale. Biol. Rev. Cambridge **25** 1950 4 pp. 255–282.
- 786.**—Kayser, C. La léthargie hibernale des mammifères et le mécanisme de sa genèse. Mammalia Paris **14** 1950 pp. 105–125 1 pl. 2 figs.

787.—Kazzaz, D. and Shanklin, W. M. The coronary vessels of the Dog demonstrated by colored plastic (vinyl acetate) injections and corrosion. *Anat. Rec.* 107 1950 pp. 43-59 3 figs.

Keenmon, K. A. *vide* Hibbard.

788.—Keil, A. Über die Frage des natürlichen Vorkommens und der experimentellen Erzeugung echter Zahnkaries bei Tieren. Remane and others *Verh. Deuts. Zool. in Kiel* 1948 Leipzig (Geest & Portig) 1949 pp. 333-340 4 figs.

789.—Keimer, L. Die fälschlich als Okapi gedeuteten, altägyptischen Darstellungen des Gottes Seth. *Acta Tropica Basel* 7 1950 pp. 110-112 2 figs.

790.—Keith, Sir A. An account of five unpublished Huxleyan plates illustrating the craniology of young anthropoid apes. *Proc. Zool. Soc. London* 119 1950 pp. 839-860 5 pls.

791.—Keller, L. Das Bindegewebsgerüst des Eierstockes und seine funktionelle Bedeutung. (Erste Mitteilung: Der Saugereierstock.) *Gegenbaurs Jb.* 88 1943 pp. 351-376 23 figs.

792.—Kelly, A. L. and Penner, L. R. *Spirocerca* from the Snow Leopard. *J. Mammal. Baltimore* 31 1950 p. 462.

793.—Kelly, A. L., Penner, L. R. and Pickard, R. J. *Sarcocystis* in the Moose. *J. Mammal. Baltimore* 31 1950 pp. 462-463.

794.—Kelson, K. R. Two new Wood Rats from eastern Utah. *J. Wash. Acad. Sci.* 39 1949 [1950] pp. 417-419.

795.—Kempe, J. E. The training of Elephants. *Country Life* 107 1950 pp. 228-229 5 figs.

796.—Kempe, J. E. The tap-dancer of the forest. *Country Life London* 107 1950 p. 1115 1 fig.

797.—Kemper, H. Über die Fußspuren von Ratten und Mäusen. *Z. Hyg. Zool. u. Schädlingsbek. Berlin* 38 1950 pp. 225-245 15 figs.

798.—Kennedy, G. C. The hypothalamic control of food intake in rats. *Proc. roy. Soc. London* 137B 889 1950 pp. 535-549 2 pls. 9 figs. tables.

799.—Kerr, Sir J. G. Sir Sidney Harmer, K.B.E., F.R.S. *Nature London* 166 1950 pp. 888-889.

800.—Kettlewell, H. W. Grey Squirrels. *Field London* 196 1950 p. 1049.

Kido, S. *vide* Koikegami.

801.—Kidwell, J. F. and Guilbert, H. R. A recurrence of the semi-hairless gene in cattle. *J. Hered.* 41 7 1950 pp. 190-192 1 fig.

King, J. E. *vide* Fraser.

802.—King, J. W. B. Pigmy, a dwarfing gene in the house mouse. *J. Hered.* 41 9 1950 pp. 249-252 2 figs.

803.—King, L. Ape or human? *S. Afr. J. Sci.* 47 1950 p. 142.

804.—King, O. M. An ecological study of the Norway Rat and the House Mouse in a city block in Lawrence, Kansas. *Trans. Kansas Acad. Sci.* 53 1950 pp. 500-528 10 figs.

Kinghorn, R. G. *vide* Hunter.

805.—Kirkpatrick, C. M. Crow predation upon nestling Cottontails. *J. Mammal. Baltimore* 31 1950 pp. 322-327.

806.—[Kirpitschnikov, A. A.] [The distribution of *Physeter catodon* in the Pacific according to industrial reports.] *Bull. Soc. Nat. Moscow Biol* 55 5 1950 pp. 11-25. [In Russian.]

807.—Kleinschmidt, A. Funktionell-morphologische Beobachtungen am Becken der Säuger unter besonderer Berücksichtigung der Primaten. Remane and others *Verh. Deuts. Zool. in Kiel* 1948 Leipzig (Geest & Portig) 1949 pp. 95-103 7 figs.

808.—Kleinschmidt, A. Vergleichend-anatomische Untersuchungen an der Aorta des Gorilla. *Anat. Anz. Jena* 97 1950 pp. 363-366 1 fig.

809.—Kleinschmidt, A. Zur Anatomie des Kehlkopfs der Anthropoiden. *Anat. Anz. Jena* 97 1950 pp. 367-372 5 figs.

810.—Kleinschmidt, A. Vergleichend-anatomische Untersuchungen an Milz, Leber, Magen, Darmtraktus und Niere des Gorilla. *Anat. Anz. Jena* 97 1950 pp. 373-384 7 figs.

811.—Klemm, M. Bisamratte. 50 Jahre Dtsch. Pflanzenschutzforsch. Festschr. Berlin 1949 pp. 135-142 2 maps.

- 812.—Klemm, M. Verbreitung und Bekämpfung der Bisamratte (*Ondatra zibethica* L.) in Deutschland in den Jahren 1946–1949. Nachrichtenbl. Deutsch. Pflanzenschutzdienst 3 11–12 1949 pp. 201–205. [N.V.]
- 813.—Klosterman, E. W., Dinusson, W. E., Lasley, E. L. and Buchanan, M. L. Effect of trace minerals on growth and fattening of swine. Science Lancaster Pa. 112 1950 pp. 168–169.
- 814.—Kluge, E. The White Rhinoceros of the Umfolozi Game Reserve. African Wild Life Johannesburg 4 1950 pp. 155–159 3 figs.
- 815.—Kobozeff, N. and Pomriaskinsky-Kobozeff, N. Sur l'hérédité des anomalies podales chez la Souris. C.R. Acad. Sci. Paris 230 1950 pp. 579–581.
- 816.—Kobozeff, N. and Pomriaskinsky-Kobozeff, N. Sur l'anourie congenitale non héréditaire chez le Rat. C.R. Acad. Sci. Paris 230 1950 pp. 869–870 1 fig.
- 817.—Kobozeff, N., Pomriaskinsky-Kobozeff, N. and Schutzenberger, M.-P. Sur une différence pondérale entre deux lignées consanguines de *Mus musculus*. C.R. Acad. Sci. Paris 230 1950 pp. 240–241.
- 818.—Kobozeff, N., Pomriaskinsky-Kobozeff, N. and Schutzenberger, P. Sur une différence pondérale à l'âge adulte entre deux lignées consanguines de *Mus musculus*. C.R. Acad. Sci. Paris 230 1950 pp. 413–414.
- 819.—Koby, F. E. Le dimorphisme sexuel des canines d'*Ursus spelaeus*. Eclog. geol. Helvet 42 1949 [1950] p. 490.
- 820.—Koby, F. E. Réduction de la prémolaire supérieure chez *Ursus spelaeus*. Eclog. geol. Helvet. 42 1949 [1950] pp. 491–492 1 fig.
- 821.—Koby, F.-E. Les variations de longueur des grands os d'*Ursus spelaeus*. Verh. Schweiz. naturf. Ges. 130 1950 p. 167.
- 822.—Koby, F.-E. and Fritz, E. Les proportions des métacarpiens et des phalanges de la main d'*Ursus spelaeus*. Verh. schweiz. naturf. Ges. 130 1950 pp. 167–168.
- 823.—Koenigswald, G. H. R. von. Bemerkungen zu "*Dryopithecus*" giganteus Pilgrim. Eclog. geol. Helvet. 42 1949 [1950] pp. 515–519 1 fig.
- 824.—Koenigswald, G. H. R. von. Voorlopige mededeling omtrent het voorkomen van *Mastodon borsoni* in Nederland. Geol. mijnbouw The Hague 12 1 1950 pp. 14–15.
- 825.—Koikegami, H., Kido, S. and Mayeda, Y. Zum Riechhirn des indischen Elefanten. Gegenbaurs Jb. 85 1941 pp. 512–524 4 figs.
- 826.—Kolb, A. Beiträge zur Biologie einheimischer Fledermäuse. Zool. Jahrb. Jena (Syst.) 78 1950 pp. 547–572 16 figs.
- 827.—Komai, T. Photograph of a man with a tail. J. Hered. 41 9 1950 pp. 247–248 1 fig.
- 828.—Komarek, J. Ceska Zvirena [The Czech Fauna], Melantrich, [1950] pp. 348 8 pls. col. 192 figs.
- 829.—Kosiba, A. Problems of nature protection in the Arctic. Ochrony Przyrody Krakow No. 19 1950 pp. 120–136 11 figs. [Polish with English summary.]
- 830.—Kowalski, K. Investigation on the ecology of forest small mammals in the neighbourhood of Krakow. Nats fizjogr. Kragu Krakow No. 22 1950 pp. 1–20 3 figs. [English res.]
- Kozlowski, L. vide Prawochenski.
- 831.—Kraglievich, L. J. A filogenia dos Macraucheniiidae Pliocenos e Pleistocenos. An. Acad. bras. Sci. 22 1950 pp. 295–301 1 fig. [English summary.]
- 832.—Kratohvil, J. and Grulich, I. Príspevek k poznání ssavců zvěřeny Jeseníku. Priv. Sborn. Ostrav Krajě 10 1949 pp. 177–196 8 figs. [English summary.]
- 833.—Kreis, H. A. Die Diagnose des Nematodenbefalles beim lebenden Tier, mit besonderer Berücksichtigung der Befunde beim Okapi "Bambe." Acta Tropica Basel 7 1950 pp. 151–163 14 figs.
- 834.—Krieg, H. Die Ziegen von Juan Fernandez. Zool. Garten Leipzig 17 1950 pp. 27–30 2 figs.

835.—Krumbeck, L. Das Quartar von Erlangen (Mittelfranken). N. Jahrb. Geol. u. Paläont. Stuttgart 92 1 1950 pp. 1-30 1 pl. 1 chart.

836.—Krumbiegel, I. Die Säugetiere der Sudamerika—Expeditionen Prof. Dr. Kriegs. 8. Agutis, 133 1941 pp. 97-113 12 figs.; 9. Maras. pp. 18-26 3 figs.; 10. Opossums (*Didelphys*), pp. 29-53 17 figs.; 11. Mitteltgrosse Didelphyiden (*Lutreolina* u. *Metachirus*) pp. 189-211 5 figs.; 134 1941; 12. Kleine Didelphyiden, pp. 1-12 7 figs.; 13. Kammratten (*Ctenomys*), pp. 125-133 5 figs.; 135 1941; 14. Faultiere, pp. 53-62 7 figs. 136 1941; 15. Baumstachler und Tapetis, pp. 18-29 7 figs. 138 1942; 16. Sumpfh- und Pampashirsche, pp. 49-70 14 figs. 138 1942; 17. Hyrare und Grisons (*Tayra* und *Grisson*), pp. 81-108 9 figs. 139 1942 Zool. Anz. Leipzig.

837.—Krumbiegel, I. Der Andenwolf—ein neuentdecktes Grosstier. Umschau, 49 19 1949 pp. 590-591 2 figs.

838.—Kruttsch, P. H. Carnivorous behavior in the Big Brown Bat. J. Mammal. Baltimore 31 1950 p. 96.

839.—Kruytzer, E. M. De herkomst van het Europese huisrind *Bos taurus* L. Natuurh. Maandbl. 38 1949 pp. 47-53 1 fig.

840.—Kuhlhorn, F. Beziehungen zwischen Ernährungsweise und Bau des Kauapparates bei einigen Gurteltier- und Ameisenbärenarten. Gegenbaurs Jb. 84 1939 pp. 55-85 10 figs.

841.—Kuhn, O. Lehrbuch der Paläozoologie. Stuttgart 1949 pp. v 1-326 224 text-figs. [Mammals pp. 281-314.]

842.—Kuhne, W. G. *Microtherium* und *Uniserium* E. v. Huene sind Fragmente unterer Backenzähne eines Tritylodontiers. Monatsh. Neues Jahrb. Geol. Pal. 6 (B) 1950 pp. 187-190 1 fig.

843.—Kuhne, W. G. A Symmetrodont tooth from the Rhaeto-Lias. Nature London 166 1950 pp. 696-697 1 fig.

844.—Kulczycki, J. La trouvaille d'un mammoth dans les Mts. Piening. Act. Geol. Polon. 1 1950 3 pp. 33C-334 2 figs. [Polish with French rés.]

845.—Kumm, H. W. and Laemmert, H. W., Jr. The geographical distribution of immunity to yellow fever among the primates of Brazil. Amer. J. trop. Med. Baltimore 30 1950 pp. 733-748 2 figs. tables.

Kumm, H. W. vide Laemmert.

846.—[Kutcheruk, V. V.] [Associations of mammals in eastern Mongolia.] Bull. Soc. Nat. Moscow Biol. 55 5 1950 pp. 26-32. [In Russian.]

847.—La Baume, W. Die ältesten europäischen Haustiere. Remane and others, Verh. Deuts. Zool. in Kiel 1948 Leipzig (Geest & Portig) 1949 pp. 74-90.

Ladman, A. J. vide Runner.

848.—Laemmert, H. W., Jr. and Kumm, H. W. The susceptibility of howler monkeys to yellow fever virus. Amer. J. trop. Med. Baltimore 30 1950 pp. 723-731 3 figs. tables.

Laemmert, H. W. vide Kumm.

849.—Lafitte, S. Observaciones sobre canibalismo en ratones blancos. Arch. Soc. Biol. Montevideo 16 1950 pp. 20-23 1 fig.

850.—Lance, J. F. Paleontologia y estratigrafia del Plioceno de Yepomera, Estado de Chihuahua, la Parte: Equidos, excepto *Neohipparion*. Bol. Inst. Geol. Univ. Nac. Aut. Mexico 54 1950 pp. viii + 81 5 pls. 10 figs.

851.—Landau, E. L'insula e la Fissura Sylvia come effetto d'una flessione generale del telencefalo nei Primati e nell'Uomo. Historia Naturales Roma 1 1946 pp. 29-32 4 figs.

Landauer, W. vide Chang.

Lane, R. M. vide Hoyer.

852.—Lang, E. M. Klinische Beobachtungen am Okapi "Bambe". Acta Tropica Basel 7 1950 pp. 118-120.

853.—Lang, W. D. Report on Dorset natural History for 1949 (except birds and lepidoptera). Proc. Dorset nat. Hist. archaeol. Soc. 71 1950 pp. 133-137.

854.—Lange, D. de. Communication on the attachment and the early development of *Macroscelides* (= *Elephantulus*) *rozeti* Duv., the North African Jumping Shrew. Bijdr. Dierk. 28 1949 pp. 255-285 11 figs.

- 855.—Langley, A. G. S. Home of Giant Seals. Field London 196 1950 p. 1128-1129 5 figs.
- 856.—Lantis, M. The reindeer industry in Alaska. Arctic Montreal 3 1950 pp. 27-44 3 figs.
- Larrison, E. J. *vide* Svihla.
- 857.—Lashley, K. S. In search of the engram. Symposia Soc. exp. Biol. Cambridge 1950 No. 4 pp. 454-482 1 pl.
- 858.—Laskarev, V. Sur les restes fossiles de *Sinotherium* en Serbie. Bull. Mus. d'hist. Nat. Serbie 1 1948 pp. 1-20 (Fr. rés. p. 20) pl. 1 figs. 1-3.
- 859.—Laskarev, V. Sur les nouvelles trouvailles de mammifères miocènes a Despotovac et sur la succession des faunes des mammifères tertiaires en Serbie. Bull. Acad. Serb. Sci. Beograd Sci. trav. N.S. 1 1 1950 pp. 25-29 2 pls.
- Lasley, E. L. *vide* Klosterman.
- Lassen, R. *vide* Chatten.
- 860.—Latimer, H. B. Anomalies found in a series of fetal and newborn puppies. Univ. Kansas Sci. Bull. 33 1950 pp. 381-385.
- 861.—Laverdiere, J. W. Baleine fossile de Daveluyville, Quebec. Nat. canad. Quebec 77 1950 pp. 271-282 5 figs.
- 862.—[Lavrov, N. P.] [Breeding and acclimatisation of fur animals in U.S.S.R.] Zool. J. Moscow 29 1 1950 pp. 27-40. [In Russian.]
- Leach, H. R. *vide* Ferrel.
- 863.—Leakey, L. S. B. Palaeontological notes—Miocene fossils. Nature in E. Africa (2) No. 3 1950 p. 2.
- 864.—Leakey, L. S. B. The food of "Proconsul": fossilised fruits and seeds which are expected to throw light on the life of the prehistoric primates of Kenya. Ill. London News 217 1950 pp. 334-335 3 figs. 1 pl.
- Leakey, L. S. B. *vide* Le Gros Clark.
- 865.—Lechner, W. Über ein Unterkiefermerkmal bei Kamel und Dromedar. Zool. Anz. Leipzig 135 1941 pp. 137-139 2 figs.
- 866.—Le Gros Clark, W. E. History of the Primates—an introduction to the study of fossil man. 2nd. ed. Brit. Mus. (Nat. Hist.) London 1950 pp. 117 40 figs.
- 867.—Le Gros Clark, W. E. South African fossil hominoids. Nature London 165 1950 pp. 893-894.
- 868.—Le Gros Clark, W. E. New discoveries of the Australopithecinae. Nature London 166 1950 pp. 758-760.
- 869.—Le Gros Clark, W. E. South African fossil hominoids. Nature London 166 1950 pp. 791-792 12 figs.
- 870.—Le Gros Clark, W. E. New palaeontological evidence bearing on the evolution of the Hominoidea. Quart. J. Geol. Soc. London 105 1950 pp. 225-259 10 figs.
- 871.—Le Gros Clark, W. E. and Leakey, L. S. B. Diagnoses of East African Miocene Hominoidea. Quart. J. Geol. Soc. London 105 1950 pp. 260-262.
- 872.—Lehmann, U. Über Mastodontenreste in der Bayerischen Staatssammlung in München. Palaeontographica Stuttgart 99 (A) 4-6 1950 pp. 121-228 12 pls. 1 fig.
- 873.—Leidel, G. Zur Anatomie des Anthropomorphenherzens (Schimpanse und Orang im Vergleich zum Menschen.). Gegenbaurs Jb. 84 1940 pp. 457-490 9 figs.
- 874.—[Lemski, V. A.] [Biology of reproduction in some Antarctic fin-whales.] Bull. Soc. Nat. Moscow (Biol) 55 2 1950 pp. 3-10. [In Russian.]
- 875.—Lennep, E. W. van. Histology of the corpora lutea in Blue and Fin Whales. Proc. K. ned. Akad. Wet. Amsterdam 53 1950 pp. 593-599 5 figs.
- 876.—Leonard, S. L. The reduction of uterine sperm and uterine fluid on fertilization of Rat ova. Anat. Rec. 106 1950 pp. 607-615.
- 877.—Leonardi, P. Segnalazione di resti di Antracoterio nelle ligniti dei dintorni di Chiuppano (Vicenze). R.C. Accad. Lincei (8) 9 6 1950 pp. 360-361 1 pl.
- 878.—[Leontzev, L. N.] [Paleogeography of the South Transcaucasus in the period of gypsum formation.] C.R. Acad. Sci. Moscow N.S. 73 1950 pp. 789-792. [In Russian.]

879.—Lesse, H. de. Notes zoologiques et botaniques sur l'Ouest du Groenland. Expéditions polaires françaises (Missions P.-E. Victor). Terre et la Vie 97 4 1950 pp. 175-201 3 pls.

880.—le Strange, E. Red Squirrels on the increase? Country Life London 107 1950 pp. 1644-1647.

881.—Leutscher, A. Badgers at home. Country-side Kingston-on-Thames N.S. 15 1950 pp. 367-370 1 fig.

882.—Leutscher, A. Legends of the Bat. Field London 196 1950 pp. 863-864 2 figs.

883.—[Levikova, A. M.] [Observations on the experimental osteogenesis in rabbit.] C.R. Acad. Sci. Moscow N.S. 71 1950 1 pp. 149-152. [In Russian.]

884.—Lewis, M. "Pine Marten" in Bedfordshire? Bedford Nat. No. 4 1950 pp. 52-53.

885.—Leyhausen, P. Beobachtungen an Lowen-Tiger-Bastarden mit einigen Bemerkungen zur Systematik der Grosskatzen. Z. Tierpsychol. Berlin 7 1950 pp. 46-83 42 figs.

886.—[Likhatchev, J. N.] [Influence of soil freezing on population of Moles (*Talpa europaea*)] Bull. Soc. Nat. Moscow (Biol.) 55 2 1950 pp. 21-24. [In Russian.]

Lim, B. L. *vide* Harrison.

887.—Lincke, M. Das Wildkaninchen, Naturbeschreibung, Jagd, Fang, Abwehr und Verwertung, sowie die als Jagdgehilfen verwendeten Tiere. Neudamm 1943 pp. 448 2 pls. 321 figs.

888.—Lindeborg, R. G. An adaptation of breeding *Peromyscus maniculatus bairdii* females to available water, and observations on changes in body weight. J. Mammal Baltimore 31 1950 pp. 74-78.

889.—Lindemann, W. Beobachtungen an wilden und gezähmten Luchsen. Z. Tierpsychol. Berlin 7 1950 pp. 217-240 22 figs.

890.—Linduska, J. P. DDT and the balance of Nature. Proc. & Pap. Internat. techn. Conf. Protect Nature Paris 1949 1950 pp. 362-371.

Lin, P. T. *vide* Young.

891.—Liversidge, D. The Elephant Seals in the Antarctic. Discovery Norwich 11 1950 pp. 253-255 4 figs.

892.—Loch, D. F. A pet Kijang. Malayan Nature J. 5 1950 2 Schools Sect. pp. 5-6 1 pl.

Lockley, R. M. *vide* Buxton.

893.—Lohre, H. Fledermaus-beringung in Württemberg. Jh. Ver. vaterl. Naturk. Württemb. 102-105 1950 pp. 65-66.

894.—Lombard, L., Morgan, B. B. and Menutt, H. The morphology of the oviduct of virgin heifers in relation to the estrous cycle. J. Morph. Philadelphia 86 1950 pp. 1-15 8 figs.

895.—Lopez, R. B. Lobos marinos de las inmediaciones de Bahia Thetis. 1st Congr. nac. Pesq. Mar d. Plata 2 1950 pp. 43-54 5 figs. 1 map.

896.—Lund, J. Charting of whale stocks in the Antarctic on the basis of iodine values. Norsk. Hvalf-Tidende Sandefjord 39 1950 pp. 53-60.

897.—Lund, J. Charting of whale stocks in the Antarctic in the season 1949-50 on the basis of iodine values. Norsk. Hvalf-Tidende Sandefjord. 39 1950 pp. 298-305.

898.—Lundholm, B. Abstammung und Domestikation des Hauspferdes. Zool. Bidr. Uppsala 27 1949 pp. 1-289 6 pls. 45 figs. [English res.]

899.—Luttschwager, H. Kritische Bemerkungen zur Unterscheidung der Gattung Bison und Bos an dem Astragalus-Knochen. Anat. Anz. Jena 97 1950 pp. 385-387 3 figs.

900.—Luttschwager, H. Studien an Kleinsaugern. Herre. Verh. Deuts. Zoologen in Mainz 1949, Leipzig (Geest and Portig) 1950 pp. 315-330 3 figs.

901.—Lyman, C. P. and Chatfield, P. O. Hibernation. Scient. Amer. 183 1950 pp. 18-21 5 figs.

902.—Lyman, C. P. and Chatfield, P. O. Mechanisms of arousal in the hibernating Hamster. J. exp. zool. Philadelphia 114 1950 pp. 491-515 8 figs.

903.—Mac-Allister, A. O. Colombian White Cattle. Field London 196 1950 p. 301 1 fig.

- McAnulty, W. N. *vide* Stovall.
- 904.—McAtee, W. L. Possible early record of a Manatee in Virginia. *J. Mammal.* Baltimore **31** 1950 pp. 98–99.
- 905.—McCabe, T. T. and Blanchard, B. D. Three species of *Peromyscus*. Santa Barbara California 1950 pp. 136 figs.
- Maccagnani, F. *vide* Contu.
- McCone, W. *vide* Johnson.
- 906.—Macdonald, A. St. J. The Fishing Cat (*Prionailurus viverrinus* Bennett). *J. Bombay nat. Hist. Soc.* **49** 1950 p. 298.
- 907.—McDonald, D. A. and Potter, J. M. A method for the study of arterial anastomoses. *J. Anat. London* **84** 1950 pp. 327–328.
- 908.—Macdonald, J. R. A note on the age of the Trucker formation. *Amer. J. Sci. New Haven* **248** 1950 pp. 581–583.
- 909.—Macdonald, J. R. A new species of *Nimravus* from the Upper Oligocene of South Dakota. *J. Paleont. Menasha Wis* **24** 1950 pp. 601–603 1 text-fig.
- 910.—Macdonald-Tyler, H. Leopard or Panther. *Field London* **196** 1950 p. 874.
- 911.—McDowell, E. C. "Light"—a new mouse color. *J. Hered. Baltimore* **41** 1950 pp. 35–36 figs.
- 912.—MacGregor, R. Behaviour in (Asiatic) domestic Buffalo. *Bull. Animal Behaviour, London* **8** 1950 pp. 21–23.
- 913.—McHugh, T. Animals of the avalanche. *Nat. Hist. N.Y.* **59** 1950 pp. 210–214, 240 8 figs.
- 914.—McHugh, T. Tiger of the grass roots. *Nat. Hist. N.Y.* **59** 1950 pp. 400–401 3 figs.
- McIntosh, A. J. *vide* Sharman.
- 915.—Macintyre, D. Habits of the Otter. *Field London* **196** 1950 p. 546 1 fig.
- 916.—Macintyre, D. Shrew's transport of young. *Field London* **196** 1950 p. 1048.
- Mackay, R. H. *vide* Cowan.
- McKeever, W. P. *vide* O'Connor.
- 917.—Mackenzie, G. A. Value of Otters. *Field London* **196** 1950 p. 738.
- 918.—Mackenzie, P. Z. Black Rhino of the Twij. *Field London* **196** 1950 p. 586 2 figs.
- 919.—Mackintosh, N. A. The work of the Discovery Committee. *Proc. Roy. Soc.* **202** (A) 1950 pp. 1–16 6 figs.
- 920.—McLeod, J. A. A consideration of muskrat populations and population trends in Manitoba. *Trans. roy. Soc. Can.* (3) **44** 5 1950 pp. 69–79 1 fig.
- 921.—Macklin, C. C. Mouse epicytes and their intramural processes. *Canad. J. Res. Ottawa* **28D** 1950 pp. 5–14 2 pls.
- 922.—Macnaughton, A. Twin Red Deer calves. *Field London* **196** 1950 p. 340.
- McNutt, H. *vide* Lombard.
- McNutt, S. H. *vide* Weber.
- Maegraith, B. G. *vide* Gall.
- 923.—Makino, S. A hairless mutation in Asiatic mice. *J. Hered.* **41** 1950 pp. 257–258 2 figs.
- 924.—Maldonado-Koerdell, M. Los vertebrados fosiles del cuaternario en Mexico. *Res. Soc. Mexicana Hist. nat.* **9** 1–2 1948 pp. 1–35.
- 925.—Malmejac, J., Rossi, M. and Plane, P. Effets de séances répétées au caisson à dépression sur le comportement de "familles" de rats blancs (*Mus decumanus*, variété albinos). *C.R. Soc. Biol. Paris* **144** 1950 pp. 271–272.
- 926.—Mann, G. Succion de sangre por *Desmodus*. *Invest. zool. chil.* **1** 1950 pp. 7–8 1 fig.
- 927.—Mann, G. Nuevos mamíferos de Tarapaca. *Invest. zool. chil.* **2** 1950 pp. 4–6.
- 928.—Mansueti, R. Extinct and vanishing mammals of Maryland and District of Columbia. *Maryland Nat. Baltimore* **20** 1950 pp. 2–48 8 pls. 1 fig.
- 929.—Manville, R. H. The mammals of Drummond Island, Michigan. *J. Mammal. Baltimore* **31** 1950 pp. 358–359.
- 930.—Manville, R. H. A comparison of trapping methods. *J. Mammal. Baltimore* **31** 1950 pp. 377–383 1 ng.

931.—**Manville, R. H.** The Wolverine in Michigan. Jack-Pine Warbler Michigan 28 1950 pp. 127-129.

932.—**Maqsood, M.** Determination of rate of secretion of thyroxine in the male rabbit. Nature London 166 1950 pp. 735-736.

Mariappa, D. *vide* Ayer.

933.—**Marsboom, R.** De Buffel en zijn economische betckevis voor Belgisch-Congo. Bull. Agric. Congo Belge 41 1950 pp. 773-792 3 figs.

934.—**Marston, A. T.** The relative ages of the Swanscombe and Piltdown skulls, with special reference to the results of the fluorine estimation test. Rept. Brit. Dental. Journ. 88 11 1950 pp. 292-299.

Marston, M.-V. *vide* Scott.

Marston, M.-V. *vide* Vogel.

Martin, A., Jr. *vide* Harpst.

935.—**Martinovitch, P. N.** Anterior pituitary explants of infantile rats grafted in the anterior eye chamber of hypophysectomized hosts. Nature London 165 1950 pp. 33-34 3 figs.

936.—**Maskar, U.** Über die biologische Verwandtschaft zwischen Lama und Kamel. Experientia Basel 6 1950 pp. 423-424.

Massart, L. *vide* Peeters.

937.—**Mather, W. B.** The technique of Rabbit blastoderm culture. No. 15 pp. 1-8. Surgery of the Rabbit embryo "in utero". No. 16 pp. 1-6. Induced ovulation in the Rabbit. No. 17 pp. 1-7. Artificial insemination in the Rabbit. No. 18 pp. 1-5. Papers Dept. Biol. Univ. Queensland 2 1950.

938.—**Matheson, C.** Musk and the Musk Deer. J. Soc. Preserv. Faun. Empire London Pt. 61 1950 pp. 26-31 1 fig.

939.—**Matheson, C.** The Walrus. Oryx (J. Faun. Pres. Soc.) 1 1950 pp. 10-14.

940.—**Matheson, C.** Longevity in the Grey Seal. Nature London 166 1950 pp. 73-74.

941.—**Matthews, L. H.** La dentition de lait chez *Nyctalus leisleri* (Kuhl). Mammalia Paris 14 1950 pp. 11-13 3 figs.

942.—**Matthews, L. H.** The male urinogenital tract in *Stenella frontalis* (G. Cuvier). Atlantide Report (Sci. Res. Danish Exp. Coasts Trop. W. Africa 1945-1946) 1 Copenhagen 1950 pp. 223-247 13 figs.

Matthews, L. H. *vide* Hill.

943.—**Matthey, R.** Les chromosomes sexuels géants de *Microtus agrestis* L. Cellule, Louvain 53 1950 pp. 161-184 6 pls.

944.—**Maury, A.** Le rat musqué (*Fiber zibethicus* L.) au Havre. Bull. Geol. Soc. Normandie 40 [1950] p. 27.

945.—**Mayeda, Y. and Suzuki, T.** Die Art und Weise der Geflechtbildung des Plexus brachialis beim Elefanten. Gegenbaurs Jb. 84 1939 pp. 154-168 figs. 2 tabs.

Mayeda, Y. *vide* Koikegami.

946.—**Mayer, W. V.** *Tursiops gillii*, the Bottlenosed Dolphin, a new record from the Gulf of California, with remarks on *Tursiops muuanu*. Amer. midl. Nat. Notre Dame 43 1950 pp. 183-185.

Medawar, P. B. *vide* Billingham.

947.—[**Medvedeva, M. S.**] [Some ecological-physiological peculiarities in house mice and *Mus musculus hortulanus* Nordm.] Zool. J. Moscow 29 1950 pp. 556-558. [In Russian.]

948.—**Mehl, S.** Soll man den Namen "Spitz-maus" ändern? Zool. Anz. Leipzig 136 1941 pp. 142-144.

949.—**Meinertz, T.** Das superfizielle Fazialisgebiet der Nager. IV. Die Muriden. 1. *Epimys norvegicus* (Erxleben) und *Cricetus cricetus* (L.) 87 1942 pp. 254-324 25 figs. 2. *Arvicola terrestris* (L.) und *Dicrostonyx groenlandicus* (Traill.) 88 1943 pp. 397-467 43 figs. Gegenbaurs Jb.

950.—**Melander, Y.** Chromosome behaviour of a triploid adult rabbit as produced by Haggqvist and Bane after colchicine treatment. Hereditas Lund 36 1950 pp. 335-341 2 figs.

Menzies, G. C. *vide* Eads.

951.—**Menzies, J. P. O.** The Irish Deer (*Cervus giganteus*). Mus. & Art Notes Vancouver B.C. 1 1950 pp. 25-26 1 fig.

952.—Menzies, T. P. O. The single tusk of the Narwhal. Mus. & Art Notes Vancouver B.C. **1** 1950 p. 31 1 fig.

953.—Merlen, R. H. A. Why does a fox bark? Country Life London **107**. 1950 pp. 1643–1644.

954.—Mertens, R. Wale in Aquarium. Natur. u. Volk **80** 1950 pp. 8–15 4 figs.

Metrakos, J. D. *vide* Butler.

955.—Meyer, W. Die 407 Wirbeltiere im Raum Meer—Main—Maas—Mittellbe, Oldenburg (Oldenburger Verlagshaus) 1949 31 pp. illust.

Meyer, M. *vide* Sprague.

956.—Meyer-Holzappel, M. Beobachtungen über das Verhalten einer Gibbonfamilie in Zürchen Zoologischen Garten. Zool. Garten Leipzig **17** 1950 pp. 10–27 3 figs.

957.—Meyn, A. Zur Kenntnis der Affentuberkulose. Zool. Garten. Leipzig **17** 1950 pp. 91–101.

958.—Middlemiss, E. Outeniqua Expedition. African Wildlife Johannesburg **4** 1950 pp. 38–39 49–50.

959.—Miller, L. S. and Robertson, W. B. Some additional records of Harvest Mice (genus *Reithrodontomys*) in the Mississippi River Valley. Nat. Hist. Misc. Chicago Acad. Sci. **67** 1950 pp 1–4.

960.—Mizue, K. Factory ship whaling around Bonin Islands in 1948. Sci. Rep. Whales Res. Inst. Tokyo **3** 1950 pp. 106–118 5 figs.

961.—Mizue, K. and Jimbo, H. Statistic study of foetuses of whales. Sci. Rep. Whales Res. Inst. Tokyo **3** 1950 pp. 119–131 12 figs.

Mofidi, C. *vide* Baltazard.

962.—Mohr, C. O. Major fluctuations of some Illinois mammal populations. Trans. Ill. Acad. Sci. **40** 1947 pp. 197–204 1 fig.

963.—Mohr, E. Wilde Kaninchen von Fuerteventura (Kanarische Inseln). Zool. Anz. Leipzig **140** 1942 pp. 138–141 4 figs.

964.—Mohr, E. Die freilebenden Nagetiere Deutschlands, und der Nachbarländer. 2nd ed. Jena (Gustav Fischer) 1950 vii + 152 pp. 140 figs.

965.—Mohr, E. Beobachtungen an Fjäll- und Waldlemmings, *Lemmus lemmus* (L) und *Myopus schisticolor* (Lilljeborg). Zool. Anz. Leipzig **145** 1950 pp. 126–137 11 figs.

966.—Mohr, E. Ein Hautstück der Stellerschen Seekuh, *Rhytina gigas* Zimm. 1780. Zool. Anz. **145** 1950 pp. 181–185 6 figs.

967.—Mohr, E. Kleine Zahnbeobachtungen im Zoologischen Garten. Zool. Garten. Leipzig **17** 1950 pp. 84–87 7 figs.

968.—Mohr, E. Behaarung und Haarwechsel der Robben. Neue Ergeb. Probleme Zool. (Klatt-Festschrift) Leipzig 1950 pp. 602–614 6 figs.

969.—Mohres, F. P. Zur Orientierung der Fledermäuse. Nat. u. Volk **80** 1950 pp. 153–161 4 figs.

970.—Mohres, F. P. Zur Funktion der Nasenaufsätze bei Fledermäusen. Naturwissenschaften Berlin **37** 1950 p. 526 1 fig.

971.—Mohres, F. P. and Oettingen-Spielberg, T. zu. Versuche über die Nahorientierung und das Heimfindervermögen der Fledermäuse. Herre. Verh. Deuts. Zoologen in Mainz 1949, Leipzig (Geest and Portig) 1950 pp. 248–252 1 fig.

972.—Montagna, W. Perinuclear sudanophil bodies in mammalian epidermis. Quart. J. micr. Sci. London **91** 1950 pp. 205–208 1 pl. 1 fig.

973.—Montagna, W. and Chase, H. B. Redifferentiation of sebaceous glands in the Mouse after total extirpation with methylcholanthrene. Anat. Rec. **107** 1950 pp. 83–91 6 figs.

974.—Montagu, M. F. A. A hybrid Gibbon. J. Mammal. Baltimore **31** 1950 pp. 150–153.

975.—Moojen, J. “*Echimys (Phyllomys) Kerri*” n. sp. (Echimyidae, Rodentia). Rev. Brasil. Biol. **10** 1950 pp. 489–492 5 figs.

976.—Moojen, J. Sobre “*Callithrix aurita*” (E. Geoffroy, 1812) (Callithricidae, Primates). Rev. Brasil. Biol. **10** 1950 pp. 501–502.

- 977.—Moore, W. R. Roaming Africa's unfenced zoos. *Nat. Geogr. Mag.* **97** 1950 pp. 353-380 24 figs.
- 978.—Moore, S. J. The speed of animals. *Field London* **195** 1950 p. 600 1 fig.
- 979.—Moorehouse, S. Martindale Deer Forest. *Field London* **195** 1950 p. 794.
- 980.—Moorhouse, S. Cadzow Wild Cattle. *Field London* **195** 1950 p. 639 2 figs.
- 981.—Morales-Agacino, E. Notes sur les phoques-moines (*Monachus monachus* Herm.) du littoral saharien espagnol. *Mammalia Paris* **14** 1950 pp. 1-6 2 pls. 1 fig.
- 982.—Moret, L. Nouvelles trouvailles de restes de Rhinocérideres (*Acerotherium Filholi* Osborn) dans l'oligocène des Déserts (Savoie). *Trav. Lab. Geol. Univ. Grenoble* **24** 1944, pp. 68-76 2 pls. 2 figs.
- Morgan, B. B. *vide* Lombard.
- Morgan, B. B. *vide* Weber.
- 983.—Morgan, W. C. A new tail-short mutation in the mouse whose lethal effects are conditioned by the residual genotypes. *J. Hered.* **41** 8 1950 pp. 208-215 3 figs.
- 984.—Mori, T. and Saiki, M. Properties of fats and oils contained in various parts of a Sperm Whale body. *Sci. Rep. Whales Res. Inst. Tokyo* **3** 1950 pp. 79-84.
- 985.—Moricard, R. Penetration of the spermatozoa in *vitro* into the mammalian ovum oxydo potential level. *Nature, London* **165** 1950 p. 763.
- Moritz, P. *vide* Botar.
- 986.—Morris, B. The structure of the foetal yolk-sac splanchnopleur of the rabbit. *Quart. J. Micr. Sci.* *London* **91** 3 1950 pp. 237-249 9 figs.
- 987.—Morrison-Scott, T. C. S. and Sawyer, F. C. The identity of Captain Cook's Kangaroo. *Bull. Brit. Mus. Nat. Hist. Zool.* **1** 1950 pp. 43-50 3 pls.
- 988.—Moses, S. T. Notes on two whales stranded in Baroda State, *Orca* at Aramda in 1943, and *Balaena* at Gajana in 1944. *Proc. Indian Sci. Congr.* **84th** 1948 3 p. 188.
- 989.—Moussa, T. A. and Gatenby, J. B. Neutral red and the Golgi apparatus of sympathetic neurones and the Zernicke microscope, with a note on the Palade-Claude mash cytology. *Cellule* **53** 1950 pp. 269-284 1 pl. 6 figs.
- 990.—Moutschen, J. Quelques particularités héréditaires du chat siamois. *Nat. Belges* **31** 1950 pp. 200-203 3 tables.
- 991.—Muller, E. Zur Anatomie des Robbenherzens. (Untersuchungen an Seebär, Seehund und See-Elefant.) *Gegenbaurs Jb.* **85** 1940 pp. 59-90 8 figs.
- 992.—Muller-Using, D. Über die wirtschaftliche Bedeutung einiger Jagdtiere in Deutschland. Remane and others, *Verh. Deuts. Zool. in Kiel* 1948, Leipzig (Geest and Portig) 1949 pp. 301-308 4 figs 2 tabs.
- Musacchia, X. J. *vide* Wilber.
- 993.—Myer, K. G. The Hare. *Zoo Life London* **5** 1950 pp. 85-86.
- 994.—Nachtsheim, H. Vergleichende Untersuchungen über erbliche Blutkrankheiten bei Mensch und Tier. Herre, *Verh. Deuts. Zoologen in Mainz* 1949, Leipzig (Geest and Portig) 1950, p. 39.
- 995.—Nachtsheim, H. The pelger-anomaly in man and rabbit. A mendelian character of the nuclei of the leucocytes. *J. Hered.* **41** 5 1950 pp. 131-137 5 figs.
- 996.—Nakamura, M. Tularemia in the Jumping Mouse. *J. Mammal.* *Baltimore* **31** 1950 p. 194.
- 997.—Nares, R. L. Grey Squirrels. *Field London* **195** 1950 p. 562.
- Natsume, Y. *vide* Akiba.
- 998.—Neal, E. Animals that move in the night. III. *London News* **216** 1950 p. 220 3 figs.
- 999.—Neal, E. Badgers at play. *Country Life, London* **107** 1950 pp. 1874-1875 3 figs.
- 1000.—Neander, A. Hasselmusfynd i Almeda socken, Kronobergs län. *Fauna och Flora, Uppsala* 5-6 1950 pp. 177-188 3 figs 1 map.
- 1001.—Negus, N. C. Fluctuation in the population of *Neotoma cinerea*

(Woodrat) in Jackson Hole, Wyoming. J. Mammal. Baltimore **31** 1950 pp. 196-197.

1002.—Negus, N. C. Habitat adaptability of *Phenacomys* in Wyoming. J. Mammal. Baltimore **31** 1950 p. 351.

1003.—Negus, N. C. Breeding of three-year-old females in the Jackson Hole Wildlife Park Buffalo herd. J. Mamm. Baltimore, **31** 1950 p. 463.

1004.—Negus, V. E. The comparative anatomy and physiology of the larynx. London 1949 pp. xix+230 191 figs.

Neill, W. T. *vide* Allen.

1005.—Neuhaus, W. Versuche zur Richtungsorientierung bei Mäusen. Remane and others, Verh. Deuts. Zool. in Kiel 1948, Leipzig (Geest and Portig) 1949 pp. 365-371, 1 fig.

1006.—Neuhaus, W. Versuche über die Richtungsorientierung mit normalen und blinden Mäusen. Z. Tierpsychol. Berlin **7** 1950 pp. 380-402 5 figs.

1007.—Newman, G. Stoat's nest. Field London **196** 1950 p. 340 1 fig.

1008.—Nichols, J. T. Additional data on the occurrence of Dall's Porpoise. J. Mammal. Baltimore **31** 1950 p. 99.

1009.—Nicholson, A. J. A record of the Spotted Bat (*Euderma maculata*) for Montana. J. Mammal. Baltimore **31** 1950 p. 197.

Nicholson, A. J. *vide* Sanborn.

1010.—Nicholson, H. P. and Vetter, M. H. A lethal trap for capturing small mammals with their ectoparasites. J. Parasit. Lancaster, Pa. **36** 1950 pp. 235-237 1 fig.

1011.—Niethammer, G. Zur Jungenflege und Orientierung der Hauspitzmaus (*Crocidura russula* Herm.). Bonn. zool. Beitr. **1** 1950 pp. 117-125 1 fig.

1012.—Niort, P. L. Ecologie des pipistrelles; une interessante population observee en Loire-Inferieure. Mammalia, Paris **14** 1950 pp. 29-35.

1013.—Niort, P. L. Une femelle en gestation de *Suncus etruscus*. Mammalia Paris **14** 1950 pp. 98-102.

1014.—Niort, P. L. Capture de *Delphinapterus leucas* Pallas (Cétacé odontocète) dans la Loire-inférieure. Bull. Soc. zool. Fr. **74** 1950 pp. 244-246.

1015.—Nishiwaki, M. Determination of the age of Antarctic Blue and Fin Whales by the colour changes in crystalline lens. Sci. Rep. Whales Res. Inst. Tokyo **4** 1950 pp. 115-161 34 figs.

1016.—Nishiwaki, M. Age characteristics in baleen plates. Sci. Rep. Whales Res. Inst. Tokyo **4** 1950 pp. 162-183 17 figs.

1017.—Nishiwaki, M. On the body weight of Whales. Sci. Rep. Whales Res. Inst. Tokyo **4** 1950 pp. 184-209 19 figs. 1 tab.

1018.—Nishiwaki, M. and Hayashi, K. Biological survey of Fin and Blue Whales taken in the Antarctic season 1947-48 by the Japanese fleet. Sci. Rep. Whales Res. Inst. Tokyo **3** 1950 pp. 132-190 59 figs.

Nogueira, P. *vide* Trincão.

Nouvel, J. *vide* Urbain.

1019.—Oakley, K. P. and Hoskins, C. R. New evidence on the antiquity of Piltdown man. Nature London **165** 1950 pp. 379-382.

1020.—Oberjohann, H. Meine Tschadsee-Elefanten. Hamburg (Hans Dulk) 1948, 220 pp., 19 figs.

1021.—[Obolenski, S. I.] [Use of ecological data for rodent control.] Bull. Soc. Nat. Moscow (Biol.) **55** 2 1950 pp. 17-20. [In Russian.]

1022.—Oboussier, H. Zur Frage des Einflusses der Domestikation auf die Hypophyse des Schweines. Zool. Anz. Leipzig **141** 1943 pp. 1-27 1 fig.

1023.—Oboussier, H. Über die Grossenbeziehungen der Canidenhypophyse. Remane and others, Verh. Deuts. Zool. in Kiel 1948, Leipzig (Geest and Portig) 1949 pp. 103-109 3 figs.

1024.—Oboussier, H. Über Unterschiede des Hirnfurchenbildes beim Hunde. Herre. Verh. Deuts. Zoologen in Mainz 1949, Leipzig (Geest & Portig) 1950, pp. 109-114 4 figs.

1025.—O'Connor, J. M. Fatty acid and the influence of temperature on the oxygen consumption of animal tissue. Proc. R. Irish Acad. 53B 1950 pp. 42-44.

1026.—O'Connor, J. M. and McKeever W. P. The influence of temperature on mammalian tissue oxidation and its relation to the normal body temperature. Proc. R. Irish Acad. 53B 1950 pp. 33-41.

1027.—Oelckers, F. Beiträge zur Kenntnis der Zwergantilopinen. Zool. Garten Leipzig, 17 1950, pp. 141-152, 16 figs.

Oettingen-Spielberg, T. zu vide Möhres.

1028.—Ogawa, T. and Shida, T. On the sensory tubercles of lips and of oral cavity in the Sei and the Fin Whales. Sci. Rep. Whales Res. Inst. Tokyo 3 1950 pp. 1-16 9 figs.

1029.—Ognev, S. I. The Mammals of U.S.S.R. and adjacent countries. Vol. VII. Rodentia (continued). Microtinae. Moscow 1950 pp. 1-707 347 figs. 10 col. pls. 15 maps.

1030.—[Ognev, S. I.] [New data on rats (*Rattus*) of the Far East.] Bull. Soc. Nat. Moscow (Biol.) 55 2 1950 pp. 15-16. [In Russian.]

1031.—Ogston, A. G., Stanier, J. E., Toms, B. A. and Strawbridge, D. J. Elastic properties of ox synovial fluid. Nature London 165 1950 p. 571.

1032.—Ohe, T. Distribution of red marrow in bones of the Fin Whale. Sci. Rep. Whales Res. Inst. Tokyo 3 1950 pp. 17-22 1 fig.

1033.—Olberg, G. Über die Lebensweise des Bibers in Südnorwegen. Nat. u. Volk 80 1950 pp. 57-66 10 figs.

1034.—Olds, J. M. Notes on the Hooded Seal (*Cystophora cristata*). J. Mammal. Baltimore 31 1950 pp. 450-452.

1035.—Olive, J. R. An extension of range of the Hairy-tailed Mole, *Para-*

scalops breweri (Bachman). J. Mammal. Baltimore 31 1950 pp. 458-459.

1036.—Olive, J. R. Some parasites of the prairie mole, *Scalopus aquaticus machrinus* (Rafinesque). Ohio J. Sci. 50 1950 pp. 263-266.

1037.—Oloff, H.-B. Die biologischen und ökologischen Ursachen der Schwarzwildmassenvermehrung. Herre. Verh. Deuts. Zoologen in Mainz 1949, Leipzig (Geest & Portig) 1950 pp. 344-348.

Oloufa, M. M. vide Baker.

1038.—Olsen, R. The fluorine content of some Miocene horse bones. Science Lancaster Pa. 112 1950 pp. 620-621.

1039.—Olson, Jr., A. C. Ground Squirrels and Horned Larks as predators upon grunion eggs. Calif. Fish Game 36 1950 pp. 323-327 2 figs.

1040.—[Olsufyev, N. and Dunaeva, T.] [Susceptibility of some insectivora to tularemia.] Zool. J. Moscow 29 1 1950 pp. 82-92. [In Russian.]

1041.—Omura, H. On the body weight of Sperm and Sei Whales located in the adjacent waters of Japan. Sci. Rep. Whales Res. Inst. Tokyo 4 1950 pp. 1-13 10 figs 3 tabs.

1042.—Omura, H. Diatom infection on Blue and Fin Whales in the Antarctic Whaling Area V (The Ross Sea Area). Sci. Rep. Whales Res. Inst. Tokyo 4 1950 pp. 14-26 19 figs. 7 tabs.

1043.—Omura, H. Whales in the adjacent waters of Japan. Sci. Rep. Whales Res. Inst. Tokyo 4 1950 pp. 27-113 71 figs 48 tabs.

1044.—O'Neill, T. The Muskrat in the Louisiana coastal marshes; a study of the ecological, geological, biological, tidal and climatic factors governing the production and management of the Muskrat industry in Louisiana. New Orleans 1949 pp. xii+152 61 figs. [N.V.]

Orkin, P. A. vide Cameron.

1045.—Orr, R. T. Early records of Californian mammals. J. Mammal. Baltimore 31 1950 p. 362.

1046.—Orr, R. T. Additional records of *Ursus californicus*. J. Mammal. Baltimore 31 1950 pp. 362-363.

1047.—Orr, R. T. Unusual behaviour and occurrence of a Hoary Bat. *J. Mammal. Baltimore* **31** 1950 pp. 456–467.

1048.—Orr, R. T. Notes on the seasonal occurrence of Red Bats in San Francisco. *J. Mammal. Baltimore* **31** 1950 pp. 457–458.

1049.—Ortmann, R. Beobachtung der Verwendung einer Wangendrüse zum Einfetten des Felles bei *Arvicola amphibius*. *Herre. Verh. Deuts. Zoologen in Mainz* 1949, Leipzig (Geest & Portig) 1950 pp. 337–341 6 figs.

1050.—Osmaston, B. B. The large Red Flying Squirrel—*Pteromys inornatus*, Geoffroy. *J. Bombay nat. Hist. Soc.* **49** 1950 pp. 114–116.

1051.—Osogoe, B. Transplantation of hematopoietic tissues into the circulating blood. I. Experiments with lymph nodes in normal rabbits. *Anat. Rec.* **107** 1950 pp. 193–219 3 pls. 2 figs 2 tabs.

1052.—Ottaviani, G. Il sistema linfatico dell'istrice (*Hystrix cristata*) e del mara (*Dolichotis patagonica*). *Gegenbaurs Jb.* **88** 1942 pp. 148–224 18 figs.

1053.—Ottaviani, G. Il sistema linfatico del Capibara (*Hydrochoerus capibara*). Contributo al sistema linfatico dei Roditori—Parte VIII. *Arch. zool. (ital.) Napoli* **35** 1950 pp 361–410 8 pls.

1054.—Ottestad, P. On age and growth of Blue Whales. *Hvalr. Skrift. Oslo* **33** 1950 pp. 67–72 2 figs.

1055.—Overzier, C. Über die Einwirkung des Desoxycorticosteronacetats auf die Nebennieren hypophysektomierter und kastrierter männlicher weisser Ratten. *Z. mikr-anat. Forsch.* **56** 1950 pp. 267–326 8 figs.

Owen, J. S. *vide* Jackson.

1056.—Packchianian, A. Relative immunity of the American Forest Deer Mouse, *Peromyscus leucopus noveboracensis*, against hyperinfection and reinoculations with *Trypanosoma brucei*. *Amer. J. trop. Med. Baltimore* **30** 1950 pp. 17–26.

1057.—Padour, L. Differenzen endokriner Drüsen bei Säugetieren

verschiedener Körpergrösse mit besonderer Berücksichtigung der langerhansschen Inseln. *Zool. Jahrb. Jena (Allg. Zool.)* **62** 1950 pp. 120–137, 33 figs.

Paesi, F. J. A. *vide* Graaf.

1058.—Pagast, F. Zur Kenntnis der Gattung *Sicista* Gray. *Zool. Jahrb. Jena (Syst.)* **79** 1950 pp. 87–92, 1 fig.

1059.—Paiva, O. M. and D'Errico, A. A. Distance from the *papilla duodeni hepatica* to the *papilla duodeni pancreatica* in Brahman crossbreds. *Rev. Fac. Med. vet. S. Paulo* **4** 1 1949 pp. 5–26.

1060.—Palmer, E. M. The extinct Cape Lion. *African Wild Life Johannesburg* **4** 1950 pp. 11–13 1 fig.

1061.—Palmer, R. *Mammals. Bedford Nat. No.* **4** 1950 p. 49.

1062.—Pan, I. del. Observaciones geológicas sobre el yacimiento logroñés con *Elephas antiquus* Falc. *Bol. Soc. esp. Hist. nat.* **48** Geol. **1** 1950 pp. 29–41 6 pls. 2 figs.

1063.—Pannekoek, A. J. The stratigraphy of the pre-Riss Pleistocene in the Netherlands. General summary. *Geol. Mijnbouw The Hague* **12** **1** 1950 pp. 50–56.

1064.—Pao-Shan Cheng. A preliminary study of the five-toed jerboa *Allactaga sibirica annulata* (Milne Edwards). *Peking nat. Hist. Bull.* **16** 1948 pp. 247–251 1 pl.

1065.—Papp, A. and Thenius, E. Über die Grundlagen der Gliederung des Jungtertiärs und Quartärs in Niederösterreich unter besonderer Berücksichtigung der Mio-Pliozän- und Tertiär-Quartär-Grenze. *Sitz. Ber. öst. Akad. Wiss.-Wien Abt. I* **158** 1949 pp. 763–787.

Pardoe, W. J. *vide* Ashton.

Parsons, D. S. *vide* Fisher.

1066.—Pata, O. Nuove osservazioni e ricerche presso il giacimento di ossa fossili a Villafranca Tirrenò (Messina). *Atti. Acc. peloritana Messina* **47** 1945 pp. 19–24.

1067.—Paulsen, H. B. International Whaling Commission. Second meeting

in Oslo 17th-21st July, 1950. Norsk. Hvalf-Tidende Sandefjord 39 1950 pp. 401-409.

Paulsen, H. B. *vide* Jahn.

Paulus, M. *vide* Bayol.

1068.—Pearson, J. A further note on the female urogenital system of *Hypsiprymnodon moschatus* (Marsupialia). Pap. roy. Soc. Tasm. 1949 1950 pp. 203-209 4 figs.

1069.—Pearson, J. The relationships of the Potoroidae to the Macropodidae (Marsupialia). Pap. roy. Soc. Tasm. 1949 1950 pp. 211-229 21 figs.

1070.—Pearson, O. P. Keeping Shrews in captivity. J. Mammal. Baltimore 31 1950 pp. 351-352.

1071.—Pearson, O. P. The submaxillary glands of shrews. Anat. Rec. 107 1950 pp. 161-169 1 fig. 1 pl.

1072.—Peatfield, E. M. Chillingham Wild Cattle. Field London 196 1950 p. 1010.

1073.—Peck, E. D. and Sawin, P. B. Morphogenetic studies of the Rabbit. VIII. Genetic variations in the sternum as determined by the interaction of general and of regionally specific growth factors. J. exp. Zool. Philadelphia 114 1950 pp. 335-357 2 figs.

1074.—Pedersen, T. Studies in whale oils. On the content of saturated fatty acids in whale oils. Hvalrad. Skr. 34 1950 pp. 1-64 4 figs.

1075.—Peeters, G. and Massart, L. Artificial lactation and perfusion of the bovine mammary gland. Research London 3 1950 pp. 217-221 2 figs.

Pegelman, S. G. *vide* Polyakov.

Penner, L. R. *vide* Kolly.

1076.—Penney, J. T. Distribution and bibliography of the mammals of South Carolina. J. Mammal. Baltimore 31 1950 pp. 81-89.

1077.—Pereira, C. Combate dos ratos. Biologico, S. Paulo 15 4 1949 pp. 74-78.

Ferlowagora, A. *vide* Hughes.

1078.—Perry, R. Animal mentality—The Red Deer. Ill. London News 216 1950 p. 466 2 figs.

1079.—[Person, R. S.] [Stomach secretion during the winter sleep as a factor regulating alkaline-acid balance in blood.] C.R. Acad. Sci. Moscow N.S. 72 1950 pp. 989-992 2 diagrams. [In Russian.]

1080.—Peters, H. Hausratte und Wanderratte. Herro. Verh. Deuts. Zoologen in Mainz. 1949, Leipzig (Geest & Portig) 1950 pp. 330-336 5 tabs.

Peterson, A. C. *vide* Hard.

1081.—Peterson, A. W. Backward swimming of the Muskrat. J. Mammal. Baltimore 31 1950 p. 453.

1082.—Peterson, R. L. A new subspecies of Moose from North America. Occ. Pap. Royal Ontario Mus. Zool. Toronto 9 1950 pp. 1-7 2 figs.

1083.—Petrides, G. A. The determination of sex and age ratios in fur animals. Amer. midl. Nat. Notre Dame 43 1950 pp. 355-382 9 figs.

1084.—Petrides, G. A. A fundamental sex difference between Lagomorphs and other placental mammals. Evolution Lancaster Pa. 4 1950 p. 99.

1085.—Petrie, J. Stoats and Rabbits. Field London 195 1950 p. 602.

1086.—Petrie, J. Courage of Stoats. Field, London 196 1950 p. 225.

1087.—Petter, C. Capture d'une *Pachyure* etrusque en Charente. Mammalia Paris 14 1950 p. 183.

1088.—Petter, F. La détermination expérimentale du sexe chez les Mammifères. Mammalia Paris 14 1950 pp. 49-77.

Petter, F. *vide* Bourdelle.

1089.—Petzsch, H. Über Warn- und Drohreaktionen, Imponiergehaben, Schreckstellung und Flucht des Hamsters (*Cricetus cricetus* L.). Z. Tierpsychol. Berlin 7 1950 pp. 293-295 2 figs.

1090.—Petzsch, H. Zur Frage des Vorkommens ungefleckter albinotischer Giraffen. Zool. Garten. Leipzig 17 1950 pp. 44-47 2 figs.

1091.—Philippe, L. Le renard roux *Vulpes fulva fulva* (Desmarest) et son influence écologique et économique

durant la saison hivernale sur une partie de l'île de Montréal. *Nat. canad. Québec* 77 1950 pp. 5-43 12 figs.

Phillips, R. S. *vide* Carter.

Phillips, W. M. *vide* Buxton and Lockley.

1092.—Phillips, W. W. A. On the young of the Ceylon Rusty-Spotted Cat (*Prionailurus rubiginosus phillipsi*, Pocock). *J. Bombay nat. Hist. Soc.* 49 1950 pp. 297-298.

Pickard, R. J. *vide* Kelly.

1093.—Pickford, P. Rats preying on worms. *Country Life London* 107 1950 p. 1644.

1094.—Pieper, A. Über besondere Nervenbildungen im Epithel der beim Saugakt des Säuglings beteiligten Mundpartien. *Anat. Anz. Jena* 93 1947 pp. 210-220 6 figs.

Piette, G. *vide* Urbain.

1095.—Pike, O. G. Wild Animals in Britain. London 1950 (MacMillan & Co.) pp. xii, 231 8 pls.

Pilgrim, A. F. *vide* Gray.

1096.—Pill, A. L. A bat anomaly. *Cave Science* 2 1950 p. 224.

1097.—Pitman, C. R. S. Annual Report of the Game Department (Uganda Protectorate) for 1948. Entebbe 1950 pp. 1-73.

1098.—Pitman, C. R. S. Annual Report of the Game Department (Uganda Protectorate) for 1949. Entebbe 1950 pp. 1-71.

Plane, P. *vide* Malméjac.

1099. Pohle, H. Zur Säugetiergeographie der Kleinen Sundainseln. O. Kleinschmidt Syllegomena Biologica Leipzig 1950 pp. 319-346 3 figs 5 tabs.

1100.—Poles, W. E. Black Lechwe of the great swamps. *African Wild Life Johannesburg* 3 1950 pp. 294-298 figs.

1101.—Pollack, E. M. Breeding habits of the Bobcat in northeastern United States. *J. Mammal. Baltimore* 31 1950 pp. 327-330.

1102.—[Polyakov, I. Y.] [Rodents harmful to grass-growing in U.S.S.R.] *J. Gen. Biol. Moscow* 11 1 1950 pp. 52-72. [In Russian.]

1103.—[Polyakov, I. Y. and Pegelman, S. G.] [Some age peculiarities of *Microtus socialis* Pall. in thermic requirements.] *J. Gen. Biol. Moscow* 11 1950 pp. 449-461. [In Russian.]

Pomriaskinsky-Kobozeff, N. *vide* Kobozeff.

1104. Ponder, E. A quantitative study of the fragmentation and haemolysis of mammalian red cells by heat. *J. exp. Biol. Cambridge* 27 1950 pp. 198-209 3 figs.

1105.—[Popov, N. F.] [The nervous centres and their role of regulation of tissue processes.] *Bull. Acad. Sci. Moscow Biol.* 6 1950 pp. 124-136 10 figs. [In Russian.]

Popovich, V. *vide* Vidovich.

1106.—Porter, R. D. Belding Ground Squirrel in northwestern Utah. *J. Mammal. Baltimore* 31 1950 p. 198.

1107.—Portmann, A. Der Zahn als Objekt vergleichend—biologischer Forschung. *Verh. naturf. Ges. Basel* 61 1950 pp. 114-127.

1108.—Portmann, A. and Wirz, K. Die cerebralen Indices beim Okapi. *Acta Tropica Basel* 7 1950 pp. 120-122.

1109.—Postel, E. Un phoque tropical: le phoque moine. *Nature Paris No.* 3187 1950 pp. 341-342 5 figs.

Potter, J. M. *vide* McDonald.

1110.—Pournelle, G. H. Mammals of a north Florida swamp. *J. Mammal. Baltimore* 31 1950 pp. 310-319 1 fig.

1111.—Pournelle, G. H. Two new mammal records from the vicinity of Welaka, Putnam County, Florida. *J. Mammal. Baltimore* 31 1950 pp. 361-362.

1112.—Praeger, R. L. Natural History of Ireland. London 1950 pp. 350. [Mammals, pp. 177-192.]

1113.—Prag, P. Transfer of Reindeer. *Field London* 195 1950 p. 641.

1114.—Frawochenski, R., Domanski, A. and Kozlonski, L. L'effort normal de traction chez le cheval. *Ann. Univ. M.C.-Sklodowska Lublin* 5E 4 1950 pp. 85-104 1 fig.

1115.—**Prell, H.** Das Grunzrind (*Bos grunniens* L.) im Schrifttum der Griechen und Römer. Zool. Garten Leipzig 17 1950 pp. 129-138.

1116.—**Preuss, F.** Das breite Beckenband des Schweines. Anat. Anz. Jena 96 1948 pp. 461-487 5 figs.

1117.—**Prey, U.** Beobachtungen an den Orangs des Zirkus Krone (München). Zool. Garten Leipzig 17 1950 pp. 52-60 5 figs.

1118.—**Price, L. I. and Couto, C. de P.** Vertebrados terrestres do Eoceno na bacia calcareá de Itaboraí (resumo da tese apresentada ao II Congresso Panamericano de Engenharia de Minas e Geologia realizado no Rio de Janeiro, em Outubro de 1946). Mineracao e Metalurgia 11 64 1946 pp. 212-213.

1119.—**Proano, J. F. and Samaniego, A. C.** El mastodonte del Chimborazo Resumen. Bol. Inform. cient. Nazion. Quito 3 1950 pp. 628-629.

1120.—**Pujiula, P. J.** Datos bionómicos sobre el tracto utero-vaginal de algunos mamíferos. Rev. Acad. Madrid 43 1949 pp. 421-426 7 pls.

1121.—**Pullig, T.** Inheritance of whorls in cocker spaniels. A preliminary report. J. Hered. 41 9 1950 pp. 239-242 3 figs.

1122.—**Purdy, D. M. and Hillemann, H. H.** Volume changes in the amniotic fluid of the Golden Hamster (*Cricetus auratus*). Anat. Rec. 106 1950 pp. 571-575.

1123.—**Purdy, D. M. and Hillemann, H. H.** Prenatal mortality in the Golden Hamster (*Cricetus auratus*). Anat. Rec. 106 1950 pp. 577-583 2 figs.

1124.—**Purdy, D. M. and Hillemann, H. H.** Changes in the weights of placental tissue per embryo for each day of gestation in the Golden Hamster (*Cricetus auratus*). Anat. Rec. 106 1950 pp. 585-590 1 fig.

1125.—**Purdy, D. M. and Hillemann, H. H.** Prenatal growth in the Golden Hamster (*Cricetus auratus*). Anat. Rec. 106 1950 pp. 591-597 2 figs.

1126.—**Radice, J. C.** Anatomie microscopique d'un embryon de rorqual (*Balaenoptera*). C.R. 13e Congr. int. Zool. Paris 1948 [1949] p. 281.

1127.—**Ralph, P. H.** The surface structure of the gall bladder and intestinal epithelium of man and monkey. Anat. Rec. 108 1950 pp. 217-225 2 pls.

1128.—**Ramakrishna, P. A.** Parturition in certain Indian bats. J. Mammal. Baltimore 31 1950 pp. 274-278 1 pl.

1129.—**Rand, R. W.** Studies on the Cape Fur-Seal (*Arctocephalus pusillus* Schreber). 1. Age-grouping in the female ff. i+16 3 pls. 2. Attendance at the rookery ff. i+19 2 pls. 3. Age-grouping in the male ff. i+23+6 4 pls. Cape Town (Dept. of Agriculture) Govt. Guano Islands Admin. Progress Rep. 1949.

1130.—**Rand, R. W.** On the milk dentition of the Cape Fur Seal. J. dent. Soc. S. Africa Oct. 15 - 1950 10 pp. 8 figs.

1131.—**Ratcliff, P. W.** Grey Squirrels. Field London 195 1950 p. 762.

1132.—**Rausch, R.** Notes on microtine rodents from the Brooks Range, Arctic Alaska. J. Wash. Acad. Sci. 40 1950 pp. 133-136.

1133.—**Rausch, R.** Notes on the distribution of some Arctic mammals. J. Mammal. Baltimore 31 1950 pp. 464-466.

1134.—**Raven, C. P.** Electron microscopy of bull sperm. C.R. 13e Congr. int. Zool. Paris 1948 [1949] p. 225.

1135.—**Raven, H. C. and others.** The Anatomy of the Gorilla. H. C. Raven Memorial Volume, Amer. Mus. Nat. Hist. and Columbia Univ. 1950 pp. 259 116 pls.

1136.—**Rawlinson, H. E.** The use of an iron stain for the study of alveolar development in the mouse mammary gland. Canad. J. Res. Ottawa 28E 1950 pp. 1-4 1 pl.

1137.—**Raynaud, A.** Etat de développement de l'appareil génital des mulots (*Apodemus sylvaticus* L.) au cours des différentes saisons de l'année. C.R. Soc. Biol. Paris 144 1950 pp. 938-940.

1138.—**Raynaud, A.** Variations saisonnières des organes génitaux des mulots (*Apodemus sylvaticus* L.) de

sexe mâle. Données pondérales et histologiques. C.R. Soc. Biol. Paris **144** 1950 pp. 941-945.

1139.—Raynaud, A. Action des facteurs externes sur le développement de l'appareil génital des mulots (*Apodemus sylvaticus* L.). C.R. Soc. Biol. Paris **144** 1950 pp. 945-948.

1140.—Raynaud, A. Morphologie comparée des ébauches mammaires de quelques foetus de rongeurs. Bull. Soc. zool. Fr. **74** 1950 pp. 253-277 4 figs.

1141.—Reed, C. A. A preliminary announcement of a new mammalian fossil locality in the Pliocene of Arizona. Plateau Flagstaff Arizona **22** 1950 pp. 75-77.

1142.—Reig, O. A. Sobre nuevos restos de roedores del genero *Isomypotamus* Rov. An. Soc. cient. argent. Buenos Aires **149** 1950 pp. 108-118 2 figs.

1143.—Reiter, A. Eine seltene Gefassanomalie im Bereich der Halsschlagadern bei einem Kaninchen (*Lepus cuniculus*). (Fehlen der Arteria carotis communis sinistra.) Anat. Anz. Jena **95** 1944 pp. 59-62 1 fig.

1144.—Rensch, B. Die paläontologischen Evolutionsregeln in zoologischer Betrachtung. Biol. gen. **17** 1943 pp. 1-55 7 figs.

1145.—Rensch, B. Beobachtungen an einem Fenek, *Megalotis zerda* Zimm. Zool. Garten Leipzig **17** 1950 pp. 30-40 3 figs.

1146.—[Reshetnik, E. G.] [Systematics and geographical distribution of *Citellus* in Ukraine.] Trud. Inst. Zool. Akad. Nauk. Ukr. R.S.R. **1** 1948 pp. 84-113. [In Russian.]

1147.—Reventlow, A. The growth of our Giraffes and Giraffe-calves. Bijdr. Dierk. **28** 1949 pp. 394-396 1 fig. 1 pl.

1148.—Rewell, R. E. Report of the Society's Pathologist for the year 1948. Proc. Zool. Soc. London **119** 1950 pp. 791-802.

1149.—Rewell, R. E. Hypertrophy of sebaceous glands on the snout as a secondary male sexual character in the Capybara, *Hydrochoerus hydrochoeris*. Proc. Zool. Soc. London **119** 1950 pp. 817-819 1 pl.

1150.—Rewell, R. E. Report of the Society's Pathologist for the year 1949. Proc. Zool. Soc. London **120** 1950 pp. 485-495.

1151.—Reynolds, H. G. Relation of Merriam kangaroo rats to range vegetation in Southern Arizona. Ecology Lancaster Pa. **31** 3 1950 pp. 456-463 figs. tables.

1152.—Richmond, N. D. and Grimm, W. C. Ecology and distribution of the Shrew *Sorex dispar* in Pennsylvania. Ecology, Brooklyn, **31** 1950 pp. 278-282 1 fig.

1153.—Richmond, N. D. and Roslund, H. R. The Woodrat, *Neotoma magister*, in Venango County, Pennsylvania. J. Mammal. Baltimore **31** 1950 p. 198.

Richter, D. *vide* Dawson.

1154.—Riedel, J. Die Bisamratte, *Fiber zibethicus* L., als Muschelfresser. Zool. Gard. Lpz. **16** 1950 p. 203.

Riga, J. T. *vide* Ghetie.

1155.—Riley, K. S. Red Squirrels. Field London **196** 1950 p. 186.

Rinjard, J. *vide* Urbain.

1156.—Rinker G. C. and Hooper, E. T. Notes on the cranial musculature in two subgenera of *Reithrodontomys* (Harvest Mice). Occ. Pap. Mus. Zool. Univ. Michigan **528** 1950 pp. 1-11 1 pl.

1157.—Ritchie, A. T. A. Notes on game control in Kenya Colony based on the experience of the last 25 years. Proc. & Pap. Internat. tech. Conf. Protect Nature, Paris **1949** 1950 pp. 445-450.

1158.—Ritchie, J. Some Scottish animals of the past. Scot. Zoo Wildlife Edinb. **2** 1950 pp. 146-151.

1159.—Rittinghaus, H. Seehunde an unserer Nordsee-Küste. Natur. u. Volk **80** 1950 pp. 275-277 2 figs.

Robb, J. S. *vide* Baird.

Roberts, B. *vide* Williams.

1160.—Roberts, E. Reindeer. Zoo Life. London **5** 1950 pp. 122-125 3 figs.

1161.—Roberts, E. J. The story of our cattle, London 1950 (Evans Bros. Ltd. Young Farmers' Club Booklet No. 22) 48 pp. 38 figs.

1162.—Roberts, F. L. India's Wild Dogs. Field London **195** 1950 p. 588.

1163.—Roberts, J. E. The badger. Proc. Chester Soc. nat. Sci. **3** 1950 pp. 149-151.

1164.—Roberts, J. I. An experiment in hydrocyanic acid gas fumigation as a control measure against plague. J. trop. Med. London **53** 1950 pp. 156-162.

Roberts, J. H. *vide* Werner.

1165.—Robertson, A. Some observations on experiments with identical twins in dairy cattle. J. Genetics London **50** 1950 pp. 32-35.

Robertson, W. B. *vide* Miller.

1166.—Robinette, W. L. and Gashwiler, J. S. Breeding season, productivity and fawning period of the Mule Deer in Utah. J. Wildlife Management Menasha Wis. **14** 1950 pp. 457-469. [N.V.]

1167.—Robinson, F. B. and Yoffey, J. M. Histochemical changes produced by cold and adrenaline in the suprarenal cortex of the adult male Rat. J. Anat. London **84** 1950 pp. 32-37 2 pls.

Robinson, J. T. *vide* Broom.

Rode, P. *vide* Urbain.

Rogers, H. J. *vide* Weidman.

1168.—Romer, A. S. Time series and trends in animal evolution. Jepson, G. L., Mayr, E and Simpson, G.G. Genetics, Paleont. and Evol. Princeton N.J. 1949 pp. 103-120 2 figs.

1169.—Romieu, M. and Stahl, A. Cytologie du Thymus du jeune Chat étudiée par la méthode des empreintes. Acta Anat. Basel **10** 1950 pp. 267-283 21 figs.

1170.—Roonwal, M. L. Contributions to the fauna of Manipur State, Assam. Part III. Mammals, with special reference to the family Muridae. Rec. Indian Museum **47** 1950 pp. 1-64 3 figs 8 pls.

1171.—Rosati, P. Ossa nasali bipartite ed ossa wormiane in *Bos taurus*. Monit. zool. ital. **58** 1950 pp. 57-65 2 figs.

1172.—Rose, C. Ferret's change of sex. Field London **196** 1950 p. 1136.

1173.—Rosevear, D. R. Rodents of Nigeria. Part II. Squirrels pp. 4-18 7 photos. Part III. Dormice pp. 101-108 2 pls. Part IV. True Rats and Mice pp. 148-172 8 figs. Nigerian Field **15** 1950.

Rosicky, B. *vide* Hanzak.

Roslund, H. R. *vide* Richmond.

1174.—Ross, S. Some observations on the lair dwelling behaviour of dogs. Behaviour, Leiden **2** 1950 pp. 144-162 7 figs.

Rossi, M. *vide* Malméjac.

1175.—Roth, U. Rangordnung bei Laboratoriumsmäusen. Zool. Garten Leipzig (N.F.) **17** 1950 pp. 126-128.

Roth, V. D. *vide* Walters.

1176.—Rousseau, J. Le Caribou et le Renne dans la toundra Québécoise. Proc. & Pap. Internat. tech. Conf. Protect Nature Paris **1949** 1950 pp. 538-539.

1177.—Rowan, W. Winter habits and numbers of Timber Wolves. J. Mammal. Baltimore **31** 1950 pp. 167-168.

Rowlands, W. T. *vide* Brambell.

1178.—Ruffie, The. Increase in Wild Deer. Field London **196** 1950 p. 257 1 fig.

1179.—Ruffie, The. Fair Play for the Roe Deer. Field London **196** 1950 p. 553 2 figs.

1180.—[Rukovski, N. N.] [Food of *Nyctereutes procyonoides* Gray in the Astrakhan area.] Bull. Soc. Nat Moscow Biol. **55** 5 1950 pp. 33-34. [In Russian.]

1181.—Runner, M. N. and Ladman, A. J. The time of ovulation and its diurnal regulation in the post-parturitional mouse. Anat. Rec. **108** 1950 pp. 343-361 2 figs.

1182.—Russell, L. B. X-ray induced developmental abnormalities in the Mouse and their use in the analysis of embryological patterns. 1. External and gross visceral changes. J. exp. zool. Philadelphia **114** 1950 pp. 545-601 19 figs.

1183.—Russell, L. S. The Tertiary gravels of Saskatchewan. Trans. roy. Soc. Can. (3) **44** 1950 pp. 51-59.

- 1184.—Russell, Sir C. The Apes of Gibraltar. *Oryx* (J. Faun. Pres. Soc.) 1 1950 pp. 22-24 1 pl.
- 1185.—Ruszkowski, J. Herbivorous fauna examined on cereals in Poland in the years 1919-1939. *Ann. Univ. M.C.-Skłodowska, Lublin* 1950 Suppl. 2E pp. 1-95. [Polish with English summary.]
- 1186.—Ruud, J. T. Investigations of the age of the Blue Whales in the Antarctic pelagic catches 1945-46-1948-49. *Norsk Hvalf-Tid. Sandefjord* 39 1950 pp. 245-260.
- 1187.—Ruud, J. T. and Jonsgard, A. Age-studies on Blue Whales taken in Antarctic seasons 1945-46, 1946-47 and 1947-48. *Hvalr. Skrift. Oslo* 33 1950 pp. 1-63 14 figs.
- 1188.—[Ruzhitch-Petrov, A.] [Contribution to the ecology of *Citellus citellus* L.] *Zbornik Radova Inst. Ekol. Biogeograf. Beograd* 21 1950 pp. 97-140 23 figs. [In Yugoslav.]
- 1189.—Rzasnicki, A. Beiträge zur Charakteristik des sog. Ward-Zebras. *Zool. Anz. Leipzig* 135 1941 pp. 257-265 10 figs.
- Saiki, M. *vide* Mori.
- 1190.—Salinger, H. E. Mating of Muskrats. *J. Mammal. Baltimore* 31 1950 p. 97.
- Samaniego, A. C. *vide* Proano.
- 1191.—Sanborn, C. C. A Nepal record of the Long-eared Bat (*Plecotus homochrous* Hodgson). *Nat. Hist. Miscell. Chicago Acad. Sci.* 69 1950 pp. 1-2.
- 1192.—Sanborn, C. C. Small Rodents from Peru and Bolivia. *Pub. Mus. Hist. Nat. "Javier Prado"* Univ. Nac. Mayor San Marcos. *Zool. (A)* 5 1950 pp. 1-16.
- 1193.—Sanborn, C. C. New Philippine Fruit Bats. *Proc. Biol. Soc. Washington* 63 1950 pp. 189-190.
- 1194.—Sanborn, C. C. Chiroptera from Dundo, Lunda, Northeastern Angola. *Pub. Cult. Compan. Diamantes Angola, Dundo, No. 10* 1950 pp. 51-62 5 figs.
- 1195.—Sanborn, C. C. and Watkins, A. R. Notes on the Malay Tapir and other game animals in Siam. *J. Mammal. Baltimore* 31 1950, pp. 430-433.
- 1196.—Sanborn, C. C. and Nicholson, A. J. Bats from New Caledonia, the Solomon Islands, and New Hebrides. *Fieldiana zool. Chicago* 31 1950 pp. 313-338 6 figs.
- 1197.—Sandegren, R. Mammutfynden från Ramsele och Solleftea. *Geol. Fören. Stockh. Förh.* 72 1950 pp. 169-180 text-figs. 1-7.
- 1198.—Sanderson, G. C. Small-mammal population of a prairie grove. *J. Mammal. Baltimore* 31 1950 pp. 17-25 2 figs.
- 1199.—Sanderson, G. C. Methods of measuring productivity in raccoons. *J. Wildlife Management Menasha Wis.* 14 1950 pp. 389-402. [N.V.]
- 1200.—Sanderson, I. T. Marmosets, Nature's imps. *Zoo Life London* 5 1950 pp. 35-39 3 figs.
- Sarber, H. R. *vide* Immler.
- 1201.—Sarmiento, A. A. Vertebrados da Madeira 1 (Mamíferos, Aves—Repteis—Batraquios) Edit. 2 Funchal (Junta Geral do Distrito Autónomo do Funchal) 1948 pp. [xii] 317. [Mamm. pp. 1-87.]
- 1202.—Sauter, M.-R. Les Australopithécidés Sud-Africains. Leur position dans la phylogénie humaine. *Arch. Sci. Genève* 3 1950 pp. 203-220 9 figs.
- 1203.—Sawin, P. B. and Dietz, D. B. Morphogenetic studies of the rabbit. IX. Masking of prenatal growth gradients in adults. *Moderne Biologie. Festschr. 60 Geburtstag. H. Nachtsheim Berlin* 1950 pp. 215-229 5 figs. tables.
- Sawin, P. B. *vide* Peck.
- Sawyer, F. C. *vide* Morrison-Scott.
- 1204.—Schack, W. Ein zweites Weisses Nashorn im Tiergarten von Pretoria (Südafrika). *Natur. u. Volk* 80 1950 pp. 49-51 1 fig.
- 1205.—Schafer, Dr. Über den Schapi (*Hemitragus jemlaicus schaeferi*). *Zool. Anz. Leipzig* 145 1950 pp. 247-260 7 figs.
- 1206.—Schantz, V. S. A new Badger from Montana. *J. Mammal. Baltimore* 31 1950 pp. 90-92.

1207.—Schantz, V. S. The Gray Fox in North Dakota. J. Mammal. Baltimore 31 1950 pp. 197-198.

1208.—Schantz, V. S. A new race of Badger (*Taxidea*) from eastern Kansas. J. Mammal. Baltimore 31 1950 pp. 346-347.

1209.—Schantz, V. S. A new race of Badger (*Taxidea*) from Kansas. J. Wash. Acad. Sci. 40 1950 pp. 92-93.

1210.—Schantz, V. S. and Jenkins, J. H. Extension of range of the Round-tailed Muskrat, *Neofiber alleni*. J. Mammal. Baltimore 31 1950 pp. 460-461.

1211.—Schaub, S. Los Cricetodontidos del Vallés-Panadés. Estud. Geol. Madrid 6 1947 pp. 55-67 5 figs.

1212.—Schaub, S. Revision de quelques Carnassiers villafranchiens du Niveau des Etonaires (Montagne de Perrier, Puy-de-Dôme). Eclog. geol. Helvet. 42 1949 [1950] pp. 492-506 8 figs.

1213.—Schaub, S. Über einen weiteren Fund von *Megatherium* (? *Paramegatherium*) *rusconii* Schaub aus Venezuela. Verh. naturf. Ges. Basel 61 1950 pp. 13-18 1 fig.

1214.—Scheffer, T. H. Taxonomic status of the Townsend ground squirrel. Trans. Kansas Acad. Sci. 53 1 1950 pp. 21-22.

1215.—Scheffer, V. B. Porpoises assembling in the North Pacific Ocean. Murrelet Seattle 31 1950 p. 16.

1216.—Scheffer, V. B. Grizzly Bear killed in Washington. Murrelet Seattle 31 1950 p. 15.

1217.—Scheffer, V. B. Growth of the testes and baculum in the Fur Seal, *Callorhinus ursinus*. J. Mammal. Baltimore 31 1950 pp. 384-394 3 pls. 2 figs.

1218.—Scheffer, V. B. Notes on the Raccoon in southwest Washington. J. Mammal. Baltimore 31 1950 pp. 444-448 2 figs.

1219.—Scheffer, V. B. The Striped Dolphin, *Lagenorhynchus obliquidens* Gill 1865, on the coast of North America. Amer. Midl. Nat. 44 1950 pp. 750-758 7 figs.

1220.—Scheffer, V. B. Growth layers on the teeth of Pinnipedia as an

indication of age. Science Lancaster Pa. 112 1950 pp. 309-311 3 figs.

1221.—Scheffer, V. B. Experiments in the marking of Seals and Sea-lions. U.S. Dept. Int. (Fish Wildlife Serv.) Spec. Sci. Rep. Wildlife 4 1950 pp. 1-33 13 figs.

1222.—Scheffer, V. B. The food of the Alaska Fur Seal. U.S. Dept. Int. (Fish Wildlife Serv.) Wildlife Leaflet 329 1950 pp. 1-16 3 figs.

1223.—Scheffer, V. B. The food of the Alaska fur seal. Trans. N. Amer. Wildlife Conf. 15 1950 pp. 410-421 figs. [N.V.]

1224.—Scheffer, V. B. Winter injury to young Fur Seals on the Northwest Coast. Calif. Fish Game 36 1950 pp. 378-379 1 fig.

1225.—Scheffer, V. B. and Wilke, F. Validity of the subspecies *Enhydra lutris nereis*, the southern sea otter. J. Wash. Acad. Sci. 40 1950 pp. 269-272 1 fig.

1226.—Scheidegger, S. Pathologisch-anatomische Untersuchung des Okapi "Bambe". Beitrag zur Frage der Leberveränderung infolge Helminthiasis. Acta Tropica Basel 7 1950 pp. 133-150 20 figs.

1227.—Scheidegger, S. and Wendnagel, W. Eine besondere Erkrankung des Skelettsystems, Osteodystrophia deformans beim Orang. Zool. Gart. Lpz. 16 1949 pp. 66-74 8 figs.

1228.—Schein, M. W. The relation of sex ratio to physiological age in the wild rat. Amer. Nat. 84 1950 pp. 489-496.

1229.—Schein, M. W. Field test of the efficiency of the rodenticide compound W.A.R.F. 42. Public Hlth. Rep. Wash. 65 11 1950 pp. 368-372 figs.

1230.—Schenker, J. Zur funktionellen Anatomie der Prostata des Rindes. Acta Anatomica Basel 1950 9 pp. 69-102 18 figs.

Schepers, G. W. H. *vide* Broom.

Schiffmann, H. *vide* Botar.

1231.—Schlott, M. Zur Kenntnis der Jugendentwicklung des Baribals (*Eumartos americanus* Pall.). Zool. Garten Leipzig 17 1950 pp. 40-44 1 fig.

1232.—Schmidt-Nielsen, B. and K. Evaporative water loss in desert rodents in their natural habitat. Ecology Brooklyn **31** 1950 pp. 75–85 5 figs.

1233.—Schmidt-Nielsen, B. and K. Pulmonary water loss in desert rodents. Amer. J. Physiol. Baltimore **161** 1950 pp. 31–36 1 fig. [N.V.]

1234.—Schmidt-Nielsen, B. and K. Do Kangaroo rats thrive when drinking sea water? Amer. J. Physiol. Baltimore **160** 1950 pp. 291–294. [N.V.]

1235.—Schneider, K. M. Eine Löwin mit Mähne. Remane and others, Verh. Deuts. Zool. in Kiel 1948 Leipzig (Geest & Portig) 1949 pp. 463–467 4 figs.

1236.—Schneider, K. M. Vom Kennzeichnen und Benennen der Säugetiere im Zoologischen Garten. Zool. Gart. Lpz. **16** 1949 pp. 135–138 1 fig.

1237.—Schneider, K. M. Einige Eindrücke vom Okapi, *Okapia johnstoni* Slater. Zool. Gart. Lpz. **16** 1950 pp. 182–185 2 figs.

1238.—Schneider, K. M. Aus der Jugendentwicklung einer künstlich aufgezogenen Schimpansin. I. Vorgeschichte. Zool. Gart. Lpz. (N.F.) **16** 1950 pp. 229–243 7 figs.

1239.—Schneider, K. M. Aus der Jugendentwicklung einer künstlich aufgezogenen Schimpansin A. Die Bewegungsweisen der ersten 10 Monate. Z. Tierpsychol. Berlin **7** 1950 pp. 485–558 65 figs.

1240.—Schneider, K. M. Zur gewichtsmässigen Jugendentwicklung gefangen gehaltener Wildcaniden nebst einigen zeitlichen Bestimmungen über ihre Fortpflanzung. Teil 2. Herre. Verh. Deuts. Zoologen in Mainz 1949 Leipzig (Geest & Portig) 1950 pp. 373–387 1 fig.

1241.—Scholander, P. F., Walters, V., Hock, R. and Irving, L. Body insulation of some arctic and tropical mammals and birds. Biol. Bull. Woods Hole **99** 1950 pp. 225–236 6 figs.

1242.—Scholander, P. F., Hock, R., Walters, V., and Irving, L. Adaptation to cold in arctic and tropical mammals and birds in relation to body tempera-

ture, insulation and basal metabolism. Biol. Bull. Woods Hole **99** 1950 pp. 259–271 3 figs. 3 tabs.

1243.—Scholander, P. F., Hock, R., Walters, V., Johnson, F., and Irving, L. Heat regulation in some arctic and tropical mammals and birds. Biol. Bull. Woods Hole **99** 1950 pp. 237–258 11 figs. 2 tabs.

Scholz, M. *vide* Botar.

1244.—Schorger, A. W. Harvest Mouse in Dane County, Wisconsin. J. Mammal. Baltimore **31** 1950 pp. 363–364.

1245.—Schreiber, V. Two phases of the water metabolism in newly born rats. Nature London **166** 1950 p. 77.

1246.—Schreuder, A. Zoogdieren uit de onderst-Pleistocene kuststreken van Nederland. Bijdr. Dierk. **28** 1949 pp. 401–415 1 fig. (English summary).

1247.—Schreuder, A. Microtinae from the Middle Gravels of Swanscombe. Ann. Mag. nat. Hist. (12) **3** 1950 pp. 629–635 6 figs.

1248.—Schreuder, A. *Microtus* cf. *agrestis* en zijn geologische ouderdom. Geol. Mijnbouw **12** 1950 pp. 148–151.

1249.—Schreuder, A. Opmerkingen van de leden: een opmerking over *Mastodon Borsoni*. Geol. Mijnbouw. The Hague **12** 1950 pp. 293–295.

1250.—Schultz, A. H. The physical distinctions of man. Proc. Amer. phil. Soc. Philad. **94** 5 1950 pp. 428–449 12 figs.

Schultz, A. H. *vide* Raven.

1251.—Schultz, C. B. and Falkenbach, C. H. Phenacocoelinae, a new subfamily of Oreodonts. Contribution to the revision of the Oreodonts (Merycoidodontidae), No. 5. Bull. Amer. Mus. Nat. Hist. **95** 1950 pp. 95–149 15 figs.

1252.—Schultz, F. H. Cat-Fox association. Canad. Field Nat. **64** 1950 p. 154.

Schutzenberger, M.-P. *vide* Kobozieff.

1253.—Schwangart, F. Der Problemkreis um die schwanzlosen Katzen. Zool. Garten Leipzig **17** 1950 pp. 66–73.

1254.—Scott, C. Game Problems in East Africa. Country Life London **107** 1950 pp. 1899–1901 2 figs.

1255.—Scott, J. P. The social behaviour of dogs and wolves: an illustration of sociobiological systematics. *Ann. N.Y. Acad. Sci.* **51** 1950 pp. 1009–1021.

1256.—Scott, J. P. and Marston, M.-V. Social facilitation and allelomimetic behaviour in dogs. II. The effects of unfamiliarity. *Behavior Leiden* **2** 1950 pp. 135–143.

Scott, J. P. *vide* Vogel.

1257.—Scott, R. F., Chatelain, E. F. and Elkins, W. A. The status of the Dall Sheep and Caribou in Alaska. *Trans. N. Amer. Wildlife Conf.* **15** 1950 pp. 612–626. [N.V.]

1258.—Searle, A. G. Gene frequencies in London's cats. *J. Genet. Cambridge* **49** 3 1949 [1950] pp. 214–220.

Segal, R. *vide* Gluecksohn-Schoenheimer.

1259.—Seitz, A. Untersuchungen über angeborene Verhaltensweisen bei Caniden. I. Teil: Beobachtungen an Füchsen (*Vulpes* Briss). *Z. Tierpsychol. Berlin* **7** 1950 pp. 1–46.

Sere, G. *vide* Botar.

1260.—Setzer, H. W. Albinism in Bats. *J. Mammal. Baltimore* **31** 1950 p. 350.

1261.—Setzer, H. W. Two new shrews of the genus *Cryptotis* from Panama. *J. Wash. Acad. Sci.* **40** 1950 pp. 299–300.

1262.—Sevenster, P. Kleine roofdieren. *Levende Nat. Amsterdam* **53** 1950 pp. 92–96 3 figs.

1263.—Severaid, J. H. The Pigmy Rabbit (*Sylvilagus idahoensis*) in Mono County, California. *J. Mammal. Baltimore* **31** 1950 pp. 1–4.

1264.—Severaid, J. H. The gestation period of the Pika (*Ochotona princeps*). *J. Mammal. Baltimore* **31** 1950 pp. 356–357.

1265.—Shadle, A. R. Feeding, care and handling of captive Porcupines (*Erethizon*). *J. Mammal. Baltimore* **31** 1950 pp. 411–416.

Shanklin, W. M. *vide* Kazzaz.

1266.—Sharland, M. Primitive Mammals of Tasmania. *Country Life London* **108** 1950 pp. 1276–1277 4 figs.

1267.—Sharman, G. B., MacIntosh, A. J. and Barber, H. N. Multiple sex chromosomes in the marsupials. *Nature London* **166** 1950 p. 996 3 figs.

Shaw, T. R. *vide* Hooper.

1268.—Shebbeare, E. O. Leopard or Panther. *Field London* **196** 1950 p. 70.

Shida, T. *vide* Ogawa.

1269.—Short, R. H. D. Alveolar epithelium in relation to growth of the lung. *Philos. Trans. London* **235B** 622 1950 pp. 35–86 1 pl. 45 pls. tables.

[Shukurov, G. S. *vide* Heptner.]

1270.—Silva, A. G. da. Contribution to the knowledge of the normal dog eye "fundus". *Rev. Fac. Med. vet. S. Paulo* **4** 1 1949 pp. 197–219 22 figs.

1271.—Simm, K. and Skuratowicz, W. Observations on the mass appearance of field rodents in Western Poland in 1946–47. *Badania fizjogr. Polska Zachodnia Posnan* **2** 1950 pp. 178–218 8 figs. [English summary.]

1272.—Simpson, G. G. History of the fauna of Latin America. *Amer. Scient. Burlington* **38** 1950 pp. 361–389 10 figs.

1273.—Sinclair, J. G. Some adaptive features of the porpoise head. *Texas J. Sci.* **2** 1950 p. 139.

1274.—Sinha, T. P. Increase in pulmonary blood volume during early postnatal life. *Anat. Rec.* **106** 1950 pp. 599–605.

1275.—Sitaramayya, C. L. Muscle fibres of the rat diaphragm. *Nature London* **166** 1950 p. 1030 2 figs.

1276.—Sitt, W. Zur Morphologie des Primordialcraniums und des Osteocraniums eines Embryos von *Rhinolophus rouxii* von 15 mm. Scheitel-Steiss-Länge. *Gegenbaurs Jb.* **88** 1943 pp. 268–342 30 figs.

1277.—Skead, C. J. The game goes to market. *African Wild Life Johannesburg* **4** 1950 pp. 72–74 3 figs.

Skuratowicz, W. *vide* Simm.

1278.—[Skvortzov, A. K.] [Contribution to the knowledge of comparative morphology of mammalian leucocytes.] *C.R. Acad. Sci. Moscow N.S.* **73** 1950 pp. 577–580 1 fig. [In Russian.]

- 1279.**—**Slijper, E. J.** On some phenomena concerning pregnancy and parturition of the Cetacea. *Bijdr. Dierk.* **23** 1949 pp. 416–448 16 figs.
- 1280.**—**Sliwa, Z.** Further studies concerning the wool of Scotch Black-faced Sheep. *Prace Kom. Nauk. Roln. i Lesn. Poznańsk. Tow. Przyj. Nauk.* **1** 2 1950 pp. 1–81. [English summary.]
- 1281.**—**Slizynski, B. M.** A preliminary pachytene chromosome map of the House Mouse. *J. Genet. Cambridge* **49** 3 1949 [1950] pp. 242–245 2 pls.
- 1282.**—**[Sludski, A. A.]** [On new and rare mammals from Kazakstan.] *Bull. Soc. Nat. Moscow (Biol.)* **55** 2 1950 pp. 11–14. [In Russian.]
- 1283.**—**Smith, C. and Thomas, F. C.** Studies on the thymus of the mammal. III. Glycogen in the cortical cells of the thymus. *Anat. Rec.* **106** 1950 pp. 17–27 4 figs.
- 1284.**—**Smith, F. D.** Pests or profits—the case for the rabbit as a paying product on the farm. *Field London* **195** 1950 p. 91 1 fig.
- Smith, M. E.** *vide* Fuller.
- 1285.**—**Snead, I. E.** A family live trap, handling cage, and associated techniques for Muskrats. *J. Wildlife Management Menasha Wis.* **14** 1 1950 pp. 67–79 figs. [N.V.]
- 1286.**—**Snook, T.** A comparative study of the vascular arrangements in mammalian spleens. *Amer. J. Anat. Philad.* **87** 1 1950 pp. 31–77 8 pls. 11 figs.
- 1287.**—**[Sokur, I. T.]** [New data on the micro-mammalian fauna in Western Polesie of the Ukraine Soviet Republic.] *Dopovidi. Acad. Sci. Ukraine Rep.* **4** 1950 pp. 305–309. [In Russian.]
- Sorrell, D. S.** *vide* Ward.
- 1288.**—**Specht, R.** Einige Laborerfahrungen in der Kleintierzucht. *Zool. Gart. Lpz.* **17** 1950 pp. 250–253.
- 1289.**—**Spencer, D. A.** Porcupines, rambling pincushions. *Nat. geogr. Mag.* **98** 1950 pp. 247–264 18 figs.
- 1290.**—**Spencer, H. J. and Davis, D. E.** Movements and survival of Rats in Hawaii. *J. Mammal. Baltimore* **31** 1950 pp. 154–157 1 pl.
- 1291.**—**Sprague, J. M. and Meyer, M.** An experimental study of the fornix in the Rabbit. *J. Anat. London* **84** 1950 pp. 354–368 2 pls. 7 figs.
- 1292.**—**Staesche, K.** Nashörner der Gattung *Dicerorhinus* aus dem Diluvium Württembergs. *Abhandl. Reichs. Bodenforsch. N.F. Hft.* **200** 1941 pp. 1–148 14 pls. 2 figs.
- 1293.**—**Stager, K. E.** A new cacomistle from south-eastern California. *Proc. Biol. Soc. Washington* **63** 1950 pp. 203–204.
- Stahl, A.** *vide* Romieu.
- Stanier, J. E.** *vide* Ogston.
- 1294.**—**Starck, D.** Zur Morphologie des Primordialkraniums von *Manis javanica* Desm. *Gegenbaurs Jb.* **86** 1941 pp. 1–122 47 figs.
- 1295.**—**[Stcheglova, V. V.]** [Systematic position and history of development of fossil deer.] *C.R. Acad. Sci. Moscow N.S.* **73** 1950 pp. 813–816 1 fig. [In Russian.]
- 1296.**—**Stein, G. H. W.** Grossenvariabilität und Rassenbildung bei *Talpa europaea* L. *Zool. Jb. (Syst.)* **79** 1950 pp. 321–349 4 figs.
- 1297.**—**Stein, G. H. W.** Zur Biologie des Maulwurfs, *Talpa europaea* L. *Bonn. Zool. Beitr.* **1** 1950 pp. 97–116 1 fig.
- 1298.**—**Steiniger, F.** Biologische Beobachtungen an freilebenden Wanderratten auf der Hallig Norderoog. Remane and others, *Verh. Deuts. Zool. in Kiel* 1948 Leipzig (Geest & Portig) 1949 pp. 152–156.
- 1299.**—**Steiniger, F.** Ratten-Uberfall auf die Hamburger Hallig. *Natur u. Volk* **80** 1950 pp. 94–99 6 figs.
- 1300.**—**Steiniger, F.** Beiträge zur Soziologie und sonstigen Biologie der Wanderratte. *Z. Tierpsychol. Berlin* **7** 1950 pp. 356–379 15 figs.
- 1301.**—**Steven, D.** Notes on a school of pilot whales stranded in East Lothian. *Scot. Nat.* **62** 3 1950 pp. 153–156 1 pl.
- 1302.**—**Steven, G. A.** Swimming of Dolphins. *Sci. Prog. London* **38** 1950 pp. 524–525.

1303.—S[tevenson], D. J. D. Mammals (Oundle). Rep. Oundle Sch. nat. Hist. Soc. 1949 [1950] p. 8.

1304.—Stevenson, J. H. F. Behaviour of foxes. Field London 195 1950 p. 199 3 figs.

1305.—Stevenson Hamilton, J. The gradual extinction of big game. Proc. & Pap. Internat. tech. Conf. Protect Nature, Paris 1949 1950 pp. 450-452.

Steyn, T. *vide* Bigalke.

1306.—Stieve, R. Über Geschlechtsunterschiede im Verhalten des Winkelfortsatzes am Unterkiefer beim Reh (*Capreolus capreolus capreolus* L.). Zool. Anz. Leipzig 135 1941 pp. 26-33 5 figs.

1307.—Stieve, H. Der Bau der Primatenplacenta. Anat. Anz. Jena 96 1948 pp. 299-329 2 figs.

1308.—Stieve, H. Zur Fortpflanzungsbiologie des Igels. Remane and others, Verh. Deuts. Zool. in Kiel 1948 Leipzig (Geest & Portig) 1949 pp. 253-256.

1309.—Stieve, H. Anatomisch-biologische Untersuchungen über die Fortpflanzungstätigkeit des europäischen Rehhe (*Capreolus capreolus capreolus* L.). Z. mikr. anat. Forsch. Leipzig 55 1950 pp. 427-530 22 figs.

1310.—Stieve, H. Zur Fortpflanzungsbiologie des Rehwildes. Herre, Verh. Deuts. Zoologen in Mainz 1949 Leipzig (Geest & Portig) 1950 pp. 348-354 1 fig.

1311.—St. John, F. Can animals exist without drinking? Zoo Life London 5 1950 pp. 28-30 2 figs.

1312.—Stock, C. Bears from the Pleistocene Cave of San Josecito, Nuevo Leon, Mexico. J. Wash. Acad. Sci. 40 1950 pp. 317-321 1 fig.

1313.—Stock, C. Note on a Hyænarctid bear from the middle Pliocene of Chihuahua, Mexico. Bull. S. Calif. Acad. Sci. 49 1950 pp. 1-2 1 pl.

1314.—Stockley, C. H. Mammal Notes. Nature in E. Africa (2) No. 3 1950 pp. 3-4.

1315.—Stockley, C. H. The Hook-lipped Rhinoceros. Zoo Life London 5 1950 pp. 88-91 3 figs.

1316.—Stockley, C. H. Elephants at home. Country Life London 107 1950 pp. 1297-1299 6 figs.

1317.—Stolk, A. Tumours in Whales. Amsterdam Nat. 1 1950 pp. 28-33 3 pls.

1318.—Stott, K., Jr. Locality records of African mammals. J. Mammal. Baltimore 31 1950 pp. 185-189.

1319.—Stott, K., Jr. Monster of the mist forests. Nat. Hist. N.Y. 59 1950 pp. 20-23 4 figs.

1320.—Stott, K., Jr. Highboys. Nat. Hist. N.Y. 59 1950 pp. 164-167 4 photos.

1321.—Stovall, J. W. and McAnulty, W. N. The vertebrate fauna and geologic age of Trinity River terraces in Henderson County, Texas. Amer. midl. Nat. Notre Dame 44 1950 pp. 211-250 2 pls. tables.

Strahan, R. *vide* Feakes.

1322.—Straunard, R. Revisao do podologia. Rev. Fac. Med. vet. S. Paulo 4 1 1949 pp. 99-160 30 figs.

1323.—Straus, W. L. On the zoological status of *Telanthropus capensis*. Amer. J. phys. Anthropol. Philad. 8 1950 pp. 495-498.

Straus, W. L., Jr. *vide* Raven.

Strawbridge, D. J. *vide* Ogston.

Strecker, R.-L. *vide* Young.

1324.—[Stroganova, A. G. and Udin, K. A.] [Harmful activity of *Citellus pygmaeus* to oak tree cultivation in Stalingrad district.] Zool. J. Moscow 29 1950 pp. 385-388 3 figs. [In Russian.]

Strong, L. C. *vide* Hollander.

1325.—Suomalainen, E. Supikoira (*Nyctereutes procyonoides* Gray) tavattu Suomessa. Luonnon Tutkija Vanamo 54 1950 pp. 50-52 1 fig.

1326.—Suomalainen, E. The raccoon dog, *Nyctereutes procyonoides* Gray (Canidae) found in Finland. Arch. Soc. zool. bot. fenn. 'Vanamo' Helsinki 5 1950 pp. 20-22 2 figs.

1327.—Suomalainen, H. The oestrous cycle of the mouse as studied by the colchicine method. Arch. Soc. zool. bot. fenn. 'Vanamo' Helsinki 3 1949 pp. 45-49 5 figs.

1328.—Suomalainen, P. Hibernation and insulin. Arch. Soc. zool. bot. fenn. 'Vanamo' Helsinki 5 1 1950 pp. 35-45 2 figs. tables. [Finnish with English summary.]

Suzuki, T. *vide* Mayeda.

1329.—Svihla, A. and Larrison, E. J. An abnormally colored Townsend Chipmunk. Murrelet Seattle 31 1950 pp. 9-11 1 pl.

1330.—[Sviridenko, P. O.] [New anti-rodent methods in forest protection.] Visnik. Akad. Nauk. Kiev. 7 1950 pp. 31-38 figs. [In Russian.]

1331.—[Sviridenko, P. O.] [The distribution, reproduction and mortality of *Apodemus agrarius* Pall.] Trud. Inst. Zool. Akad. Nauk. Ukr. R.S.R. 2 1949 pp. 18-47 15 figs. [In Russian.]

1332.—Switzenberg, D. F. Breeding productivity in Michigan Red Foxes. J. Mammal. Baltimore 31 1950 pp. 194-195.

1333.—Szalajko, T. Researches on the wool of the Scotch Blackfaced Sheep. Proc. Kom. Nauk Roln. i Lésn. Poznansk. Tow. Przyj. Nauk 1 1 1950 pp. 1-33 tables. [English summary.]

1334.—Takai, F. *Amynodon watana-bei* from the latest Eocene of Japan with a brief summary of the latest Eocene Mammalian faunule in Eastern Asia. Rept. Geol. Survey Japan 131 1950 pp. 1-14 1 pl.

1335.—Takenouchi, Y. Some morphological observations on two hair types in the Shepherd Dog. J. Fac. Sci. Hokkaido Univ. (Zool.) Ser. 6 10 1950 pp. 71-76 24 figs. 2 tabs.

1336.—[Tarasov, P. P.] [Ecology of *Ochotona pallasi*.] Bull. Soc. Nat. Moscow Sect. Biol. 55 1950 pp. 35-42. [In Russian.]

1337.—Tate, G. H. H. The Muridae of the Cocos-Keeling Islands. Bull. Raffles Mus. Singapore 22 1950 pp. 271-277.

1338.—Tauber, A. F. Über Resorptionsdefekte am Gebiss beim Zahnwechsel rezenter und fossiler Wirbeltiere. SitzBer. öst. Akad. Wiss. Wien. Abt. I. 158 1949 pp. 593-608 6 figs.

1339.—Tawara, T. On the respiratory pigments of whale (studies on whale blood II). Sci. Rep. Whales Res. Inst. Tokyo 3 1950 pp. 96-101.

1340.—Tayeb, M. A. F. L'appareil urinaire du chameau. 'Rév. élev. Méd. vét. Pays trop. Paris N.S. 3 4 1949 pp. 175-180 3 figs.

1341.—[Tcheltzov-Bebutov, A. M.] [The problem of winter food reserves of the Muskrat.] Bull. Soc. Nat. Moscow Sect. Biol. 55 1950 pp. 43-44. [In Russian.]

1342.—[Tchikunova, V. S.] [Nerve transplantation in mammals.] C.R. Acad. Sci. Moscow N.S. 74 1950 pp. 131-134 3 figs. [In Russian.]

1343.—Tegner, H. Migration of Roe. Field London 195 1950 p. 352 1 fig.

1344.—Tegner, H. Malformed Roe-buck head. Field London 196 1950 p. 637.

1345.—Tegner, H. German Roe-buck. Field London 196 1950 p. 687.

1346.—Teike, M. and Tobien, H. Über Säugerreste aus der Braunkohlengrube "Glückauf-Phönix" bei Breitscheid/Westerwald. Notizbl. hess. Landesamt. 6 1950 pp. 112-119.

1347.—Teilhard de Chardin, P., and Trassaert, M. The Pliocene Camelidae, Giraffidae, and Cervidae of South-eastern Shansi. Palaeont. Sinica. N.S. C. 1 (whole series 102) 1937 pp. 1-68 6 pls. 19 figs.

1348.—Terry, W. M. Japanese whaling industry prior to 1946. Rep. Nat. Resources Section H.Q. Allied Powers Tokyo No. 126 1950 pp. 1-47 frontis. 18 figs.

1349.—Tesch, P. De kleine zoogdieren in het Nederlandse oud plistoceen. Geol. Mijnbouw The Hague 12 1950 pp. 19-23.

1350.—Tesch, P. Over enige bestanddelen van flora en fauna van het onderplistoceen in Nederland. Geol. Mijnbouw 12 1950 pp. 137-139.

1351.—T., G. W. African Wild Dogs. Country Life London 108 1950 p. 1885 1 fig.

1352.—Tevis, L., Jr. Summer behavior of a family of Beavers in New York State. *J. Mammal.* Baltimore **31** 1950 pp. 40–65 5 figs.

1353.—Theiler, K. Beitrag zum Funktionellen bau der Iris des Schweines. *Acta Anat.* Basel **10** 1950 pp. 255–266 5 figs.

1354.—Thenius, E. Die Säugetierfauna aus den Congerienschichten von Brunn—Vösendorf bei Wien. *Verh. geol. Bundesamst.* Wien 7–9 **1948** pp. 113–131.

1355.—Thenius, E. Über die Gehörregion von *Indarctos* (Ursidae, Mamm.). *SitzBer. öst. Akad. Wiss.* Wien Abt. I. **158** 1949 pp. 647–653 2 figs.

1356.—Thenius, E. Über die Säugetierfauna aus dem Unterpliozän von Ihan bei Ankara (Türkei). *SitzBer. öst. Akad. Wiss.* Wien Abt. I. **158** 1949 pp. 656–661.

1357.—Thenius, E. Zur Revision der Insektivoren des steirischen Tertiärs. Beiträge zur Kenntnis der Säugetierreste des steirischen Tertiärs II. *SitzBer. öst. Akad. Wiss.* Wien Abt. I. **158** 1949 pp. 671–693 5 figs. tables.

1358.—Thenius, E. Die Carnivoren von Göriach (Steiermark) Beiträge zur Kenntnis der Säugetierreste des steirischen Tertiärs IV. *SitzBer. öst. Akad. Wiss.* Wien Abt. I. **158** 1949 pp. 695–762 15 figs. tables.

1359.—Thenius, E. *Martes gambitzensis* H. v. Meyer. Beiträge zur Kenntnis der Säugetierreste des steirischen Tertiärs III. *SitzBer. öst. Akad. Wiss.* Wien Abt. I. **158** 1949 pp. 793–797.

1360.—Thenius, E. Zur Herkunft der Simocyoniden (Canidae, Mammalia) Eine phylogenetische Studie. *SitzBer. öst. Akad. Wiss.* Wien Abt. I. **158** 1949 pp. 799–810 2 figs.

1361.—Thenius, E. *Postpotamochærus* nov. subgen. *hyotherioides* aus dem Unterpliozän von Samos (Griechenland) und die Herkunft der Potamochoeren. *SitzBer. öst. Akad. Wiss.* Wien Abt. I. **159** 1950 pp. 25–36 2 figs. tables.

1362.—Thenius, E. Die tertiären Lagomeryiden und Cerviden der Steiermark. Beiträge zur Kenntnis der Säugetierreste des steirischen Tertiärs

V. *SitzBer. öst. Akad. Wiss.* Wien Abt. I **159** 1950 pp. 219–254 10 figs.

1363.—Thenius, E. Das Meer-schweinchen biologisch betrachtet. *Österr. Zool. Z.* Wien. **2** 1950 pp. 414–422 4 figs.

Thenius, E. *vide* Papp.

1364.—Thevenin, R. La faune disparue de France; depuis les origines jusqu'à nos jours. Paris 1943 pp. 326 8 pls. 36 figs.

1365.—Thienemann, A. Verbreitungsgeschichte der Süßwassertierwelt Europas, Versuch einer historischen Tiergeographie der europäischen Binnengewässer. *Binnengewässer Stuttgart* **18** 1950 pp. i–xvi 1–809 11 pls. 249 figs. tables.

1366.—Thollander, R. En tam langörod fladdermus. Fauna och Flora Uppsala **1950** 4 pp. 129–132 2 figs.

Thomas, F. C. *vide* Smith, C.

1367.—Thompson, S. H. Alaska Fishery and Fur-Seal Industries: 1947. Stat. Digest Fish Wildlife Serv. Washington D.C. **20** 1950 pp. 1–78 31 tabs.

1368.—Thrapp, D. L. Early "missing links" from Africa. *Nat. Hist. N.Y.* **59** 1950 pp. 304–309 333–334 4 figs.

1369.—Tinbergen, N. Grimbeert thuis. *Levende Nat.* **53** 1950 pp. 221–224 3 figs.

1370.—Tobien, H. Die Insektenfresser und Nagetiere aus der aquitanen Spaltenfüllung bei Tomerdingen (Ulmer Alb). *Ber. naturf. Ges. Freiburg* **36** 1939 pp. 159–180 1 pl.

Tobien, H. *vide* Teike.

1371.—Tomkinson, R. Beauty and fantasy in Nairobi Park. *Oryx* (J. Faun. Pres. Soc.) **1** 1950 pp. 41–43 1 pl.

Toms, B. A. *vide* Ogston.

Trassaert, M. *vide* Teilhard de Chardin.

1372.—Traub, R., Frick, L. P. and Diercks, F. H. Observations on the occurrence of *Rickettsia tsutsugamushi* in rats and mites in the Malayan jungles. *Amer. J. Hyg.* Baltimore **51** 1950 pp. 269–273.

Traub, R. *vide* Harrison, J. L.

- 1373.**—Trester, L. M. The aloof Armadillo. *Frontiers Philad.* Pa. 15 1950 pp. 18–20 1 fig.
- 1374.**—Tribe, D. E. The importance of the sense of smell to the grazing sheep. *J. agric. Sci. London* 39 1950 pp. 309–312.
- 1375.**—Tribe, D. E. and Gordon, J. G. The importance of colour vision to the grazing sheep. *J. agric. Sci. London* 39 1950 pp. 313–314 1 fig.
- 1376.**—Trincao, C., Nogueira, P. and Goureira, E. Quadro hematico e medular do hamster dourado (*Cricetus auratus*). *An. Inst. Med. trop. Lisboa* 6 [1950] pp. 41–46 4 figs.
- 1377.**—[Troitski, V. V.] [The process of ramification of blood vessels.] *Bull. Acad. Sci. Moscow* 4 1950 pp. 31–43 10 figs. [In Russian.]
- 1378.**—Troughton, E. Unique Australian mammals. *Discovery Norwich* 11 1950 pp. 149–152 9 figs.
- 1379.**—Troughton, E. Bandicoots—rare and otherwise. *Aust. Mus. Mag.* 10 1950 pp. 95–98 2 figs.
- 1380.**—Tryon, C. A., Jr. and Buck, P. D. Montana records of Antelope embryos and reproductive tracts. *J. Mammal. Baltimore* 31 1950 pp. 192–193.
- Tsuchiya, T.** *vide* Akiba.
- 1381.**—Turchini, J. Alcuni aspetti dell'istofisiologia della ghiandola mammaria. *Monit. zool. ital. Firenze* 57 1950 Suppl. pp. 91–92.
- 1382.**—Turcek, F. Populations of some small mammals in a hardwood forest near Banská Stávnica. *Vest. Ceskol. zool. Spolec. Praze* 13 1949 pp. 348–363. [Czech with English res.]
- 1383.**—Turcek, F. J. The population maximum of the field mouse (*Microtus arvalis* Pall.) in the year 1949 in Slovakia. *Sborn. Cesk. Akad. Zem. 33* 1950 pp. 238–248 4 figs. graphs. [English summary.]
- 1384.**—Tyson, E. L. Summer food habits of the Raccoon in south-west Washington. *J. Mammal. Baltimore* 31 1950 pp. 448–449.
- 1385.**—[Tzalkin, V. I.] [On *Capra aegagrus turkmenicus* subsp. nova in Turkmenia.] *C.R. Acad. Sci. Moscow N.S.* 70 1950 pp. 323–326. [In Russian.]
- Udin, K. A.** *vide* Stroganova.
- 1386.**—Ullrich, H. Wärmehaushalt, geographische Verbreitung, Biotop und Akklimatisation. *Zool. Garten Leipzig* 17 1950 pp. 74–84.
- 1387.**—Ulmer, F. A. The Raccoon. *Zoo Life London* 5 1950 pp. 67–71 5 figs.
- Umehara, M.** *vide* Akiba.
- 1388.**—Urbain, A. Sur la biologie du Castor du Rhone (*Castor fiber* L.). *Bijdr. Dierk.* 23 1949 pp. 472–476 2 figs.
- 1389.**—Urbain, A. and Bullier, P. Un cas de pseudo-albinisme chez une Antilope kob de Buffon (*Adenota kob* Erxleben). *Bull. Mus. Hist. nat. Paris* (2) 22 1950 pp. 63–64 1 fig.
- 1390.**—Urbain, A., Bullier, P. and Weill, J. Comportement du magot (*Macaca sylvanus* L.) vis-à-vis d'un système de cloture électrique. *Mammalia Paris* 14 1950 pp. 7–10.
- 1391.**—Urbain, A. and Piette, G. Etude bactériologique de la septicémie des rats musqués (*Fiber zibethicus* [L.]). *Bull. Mus. Hist. nat. Paris* (2) 22 1950 pp. 443–444.
- 1392.**—Urbain, A., Nouvel, J., Bullier, P. and Rinjard, J. Rapport sur la mortalité et la natalité enregistrées au Parc Zoologique du Bois de Vincennes pendant l'année 1949. *Bull. Mus. Hist. nat. Paris* (2) 22 1950 pp. 181–196.
- 1393.**—Urbain, A. and Rinjard, J. Un hybride de tigre-lion au Parc Zoologique du Bois de Vincennes. *Mammalia Paris* 14 1950 pp. 103–104 1 pl.
- 1394.**—Urbain, A. and Rode, P. Les singes anthropoïdes, Paris (Presses Universitaires de France) 1948 pp. 128 20 figs.
- 1395.**—Ursin, E. Zoogeographical remarks on the mammals occurring on the Islands south of Funen (Denmark). *Vidensk. Medd. Dansk. naturh. Foren.* 112 1950 pp. 35–62 7 figs. tables.
- 1396.**—Van der Horst, C. J. Some natural experiments in the embryological development of *Elephantulus*. *C.R. 13e Congr. int. Zool. Paris* 1948 [1949] p. 266.

1397.—Van der Horst, C. J. Amniogenesis. *Bijdr. Dierk.* **28** 1949 pp. 205–211.

1398.—Van der Horst, C. J. The placentation of *Elephantulus*. *Trans. roy. Soc. S. Afr.* **32** 1950 pp. 435–629 71 figs.

1399.—Van der Horst, C. J. The effect of insemination on the uterine epithelium of *Elephantulus*. *Proc. K. ned. Akad. Wet.* **53** 10 1950 pp. 1511–1514 3 figs.

1400.—Van Dorp, A. W. V. and Deane, H. W. A morphological and cytochemical study of the post-natal development of the Rat's adrenal cortex. *Anat. Rec.* **107** 1950 pp. 265–281 16 figs.

Van Wagenen, G. *vide* Duran-Reynals.

1401.—[Varshavski, S. N.] [Age determination in *Mus musculus* and *Mus musculus hortulanus*.] *Bull. Soc. Nat. Moscow Sect. Biol.* **55** 1950 pp. 21–34 figs. [In Russian.]

1402.—Veit, O. Über das Problem Wirbeltierkopf. Vorlesungen für Studierende der Medizin, Kempen, Niederrhein (Thomas-Verlag) 1947 102 pp. 59 pls.

1403.—Venge, O. Studies of the maternal influence on the birth weight in Rabbits. *Acta zool. Stockholm* 1950 **31** pp. 1–148 27 figs.

1404.—Venzo, S. Rinvenimento di *Anancus arvernensis* nel villafranchiano dell'Adda di Paderno di *Archidiskodon meridionalis* e *Cervus* a Lefte. *Stratigrafia e clima del Villafranchiano bergamasco. Atti Soc. ital. Milano* **89** 1950 pp. 43–122 10 figs.

Vetter, M. H. *vide* Nicholson.

1405.—Vibe, C. The marine mammals and the marine fauna in the Thule district (Northwest Greenland) with observations on ice conditions in 1939–41. *Medd. Gronland.* **150** 6 1950 pp. 1–117 35 figs. tables.

1406.—Vidovich, V. and Popovich, V. L'évolution de la thermorégulation au cours de l'ontogénèse chez *Citellus citellus*. *Arch. biol. Sci. Belgrade* **1** 2 1949 pp. 137–155 6 figs. tables. [French résumé.]

1407.—Vieira, C. Nova contribuicao ao conhecimento dos mamiferos do Rio Jurua. *Bol. Mus. Paraense Emilio Goeldi* **10** 1949 pp. 239–274.

1408.—Vieira, C. Xenartros e Marsupiais do Estado de Sao Paulo. *Arq. Zool. S. Paulo* **7** 1950 pp. 325–362.

Vilaghi, M. *vide* Botar.

1409.—Villa, R. B. Status de *Oryzomys cf. melanotis*. *An. Inst. Biol. Mex.* **21** 1950 p. 241.

1410.—Villa, R. B. El murcielago blanco, genero *Diclidurus*, registrado por primera vez en Mexico. *An. Inst. Biol. Mexico* **21** 1950 pp. 435–437 2 figs.

Villa, R. B. *vide* Hall.

Villa, R. B. *vide* Hatt.

Villa, R. B. *vide* Hibbard.

1411.—Villalta, J. F. de. Una nueva especie de *Hipparion* del Villafranchiense. *Arrahona, Rev. Mus. Sabadell* 1–2 1950. [N.V.]

1412.—Villalta, J. F. de and Crusafont Pairo, M. *Indarctos vireti* nova sp. un nuevo Ursido del grupo de los Hemionidos del Mioceno sup. del Vallés. *Cons. Sup. Invest. Cientif. Centro "Lucas Mallada" Madrid* 1943. [N.V.]

1413.—Villalta Comella, J. F. de. Sobre un Esciuiróptero del Vindoboniense del Vallés-Penedés. *Bol. Soc. esp. Hist. nat.* **48** *Geol.* **1** 1950 pp. 53–59 1 pl.

1414.—Villalta Comella, J. F. de and Crusafont Pairo, M. Sobre el Pleistaceno de Baleares y sus nuevos yacimientos de mamiferos. *Nota preliminar. Estud. Geol. Madrid* **6** 1947 pp. 69–77 1 fig.

1415.—Villalta, J. F. de and Crusafont Pairo, M. Un nuevo yacimiento pleistocénico en Castellefells. *Rev. Estud. Geol. Inst. "Lucas Mallada"* **6** 12 1950 pp. 273–285.

1416.—Vinson, J. L'île Ronde et l'île aus Serpents. *Proc. R. Soc. Mauritius* **1** 1 1950 pp. 32–52 4 pls. 2 figs.

1417.—Viret, J. Observations complémentaires sur quelques mammifères fossiles de Soblay. *Eclog. geol. Helvet.* **42** 1949 [1950] pp. 469–476 5 figs.

1418.—Viret, J. Sur l'identité générique des Mustélidés fossiles désignés sous

les noms de *Pannonictis pilgrimi* et d'*Enhydrictis galictoides*. C.R. Soc. Geol. France 9-10 1950 pp. 165-166.

1419.—[Vitt, V. O.] [Theory of age selection of animals. I. Influence of age of animals on characteristics of progeny.] J. Gen. Biol. Moscow 10 1949 pp. 161-179. [In Russian.]

1420.—Vlasak, J. Über künstliche Aufzucht eines Eisbären *Thalarctos maritimus* Phipps. Zool. Gart. Lpz. 16 1950 pp. 159-179 9 figs.

1421.—Voge, M. Cannibalism in *Microtus californicus*. J. Mammal. Baltimore 31 1950 p. 96.

1422.—Vogel, Jr., H. H., Scott, J. P. Marston, M.-V. Social facilitation and allelomimetic behavior in dogs. I. Social facilitation in a non-competitive situation. Behaviour Leiden 2 1950 pp. 121-134.

1423.—[Voronin, G. N.] [Regeneration of fractured bone tissue in mice and rats.] C.R. Acad. Sci. Moscow N.S. 73 1 1950 pp. 171-173. [In Russian.]

1424.—Vos, A. de. The status and protection of ten vanishing mammal species. Proc. & Pap. Internat. tech. Conf. Protect Nature Paris 1949 1950 pp. 499-500.

1425.—Vrydagh, J.-M. Probleme des grands troupeaux de gros gibier en voie de disparition dans certaines regions du globe et notamment en Asie et en Afrique. Etude des rapports qui existent en pays neufs entre les trois elements du probleme: le progres de la civilisation, la population indigene et la faune sauvage. Proc. and Pap. Internat. tech. Conf. Protect Nature Paris 1949 1950 pp. 453-469.

Waard, K. *vide* Bigalke.

1426.—Wade, O. Soil temperatures, weather conditions, and emergence of Ground Squirrels from hibernation. J. Mammal. Baltimore 31 1950 pp. 158-161 3 figs.

1427.—Wagner, W. Diluviale Tektonik im Senkungsbereich des nördlichen Rheintalgrabens und an seinen Rändern. Notizbl. hess. Landesamt. 6 1950 pp. 177-192.

1428.—Walander, A. Parental development of the epithelial primordium of

the larynx in rat. Acta anat. Suppl. 13 1950 pp. 1-140 60 figs.

1429.—Walker, D. G. and others. Growth and differentiation in the Rat following hypophysectomy at 6 days of age. Anat. Rec. 106 1950 pp. 539-554 6 figs.

1430.—Walker, D. M. Observations on behaviour in young calves. Bull. Animal Behaviour London 8 1950 pp. 5-10 3 figs. 2 tabs.

1431.—Walker, E. P. More about animal behaviour. Smithsonian Report 1949 [1950] pp. 261-292 16 pls.

1432.—Walker, L. W. The Fish Bats of Pescadora. Audubon Mag. New York 52 1950 pp. 294-299 7 figs.

1433.—Wallace, F. An Exhibition of sporting trophies. Country Life London 108 1950 pp. 144-147 2 figs.

1434.—Wallace, F. Sporting trophies. Country Life London 108 1950 p. 527 1 fig.

1435.—Wallace, M. E. A mutation from black to brown in *Mus musculus*. Heredity London 4 1950 p. 259.

1436.—Wallace, M. E. Locus of the gene 'fidget' in the house mouse. Nature London 116 1950 p. 407.

1437.—Walters, R. D. and Roth, V. D. Faunal nest study of the Woodrat, *Neotoma fuscipes monochrourea* Rhoads. J. Mammal. Baltimore 31 1950 pp. 290-292.

Walters, V. *vide* Scholander.

1438.—Wanson, W. and Camphyn, R. Propriétés raticides au D.D.T. Ann. Soc. belge Méd. trop. 29 4 1949 pp. 549-555.

1439.—Ward, J. N. and Sorrell, D. S. The fauna of Jubaland. Oryx (J. Faun. Pres. Soc.) 1 1950 pp. 26-34 map.

1440.—Warham, J. Bats in flight. Country Life London 107 1950 p. 27 4 photos.

Waring, H. *vide* Feakes.

Washburn, S. L. *vide* Raven.

1441.—Wassif, K. Trident Bat (*Asellia tridens*) in the Egyptian oasis of Kharga. Bull. Zool. Soc. Egypt 8 1949 pp. 9-12 4 figs.

1442.—Wassif, K. The tensor tympani muscle of Bats. *Ann. Mag. Nat. Hist.* (12) **3** 1950 pp. 811–812.

1443.—Waterer, R. R. Protection of the Cyprus Mouflon. *Proc. & Pap. Internat. tech. Conf. Protect. Nature, Paris 1949* 1950 p. 550.

Watkins, A. R. *vide* Sanborn.

Watson, G. W. *vide* Crabb.

1444.—Watson, D. M. S. Clive Forster-Cooper 1880–1947. *Obit. Not. roy. Soc. Lond.* **7** 19 1950 pp. 83–93 pl.

1445.—Watson, J. M. The wild mammals of Teso and Karamoja. IV. Rodentia pp. 53–84 18 figs. V. Carnivora pp. 163–203 16 figs. *Uganda J. London* **14** 1950.

1446.—Watson, J. S. Some observations on the reproduction of *Rattus rattus* L. *Proc. zool. Soc. London* **120** 1950 pp. 1–12.

1447.—Waugh, D. F. The ultra-structure of the envelope of mammalian erythrocytes. *Ann. N.Y. Acad. Sci.* **50** 1950 pp. 835–853 9 figs.

1448.—Weber, A. F., McNutt, S. H. and Morgan, B. B. Structure and arrangement of zona glomerulosa cells in the bovine adrenal. *J. Morph. Philadelphia* **87** 1950 pp. 393–415 8 figs.

1449.—Weber, N. A. The role of Lemmings at Point Barrow, Alaska. *Science, Lancaster, Pa.* **111** 1950 pp. 552–553.

1450.—Weber, W. (see also Grunenberg). Genetical studies on the skeleton of the Mouse. III. Skeletal variation in wild populations. *J. Genetics London* **50** 1950 pp. 174–178 5 figs.

1451.—Wegner, A. M. R. The cause of the enormous proportions and the extraordinary shape of some buffalo horns from the Island of Samba. *Hemera Zoo. Buitenzorg* **57** 11 1950 pp. 708–710 1 fig.

1452.—Wehrli, H. Die Chalicotherien aus den Dinotheriensanden Rheinheßens. *Mitt. Reichst. Bodenforsch. Darmstadt* **5** 1939 pp. 26–33 2 pls. 1 table.

1453.—Weidman, S. M. and Rogers, H. J. Studies on the skeletal tissues. I. The degree of calcification of selected mammalian bones. *Bio-chem. J.* **47** 1950 pp. 493–497.

1454.—Weigelt, J. Biometrische Studien an paleozanen Säugetieren und ihre Bedeutung für die Beurteilung des Evolutionsgeschehens. *Forsch. u. Fortschr.* 21/23 (7, 8, 9): 1947 pp. 88–89 figs. [N.V.]

1455.—Weigelt, J. Die tektonische Prädestination des Lebensraumes: altertertiärer Wirbeltierfaunen Deutschlands. *Z. deutsch. geol. Ges.* **100** (1948) 1950 Jubiläumsband pp. 410–426 2 figs.

Weill, J. *vide* Urbain.

1456.—Weir, J. A. The temperature of the mouse in health and disease. *Proc. Iowa Acad. Sci.* **54** 1947 pp. 383–388.

1457.—Welch, F. D. Antler Bulge. *Field London* **195** 1950 p. 762 fig. **196** 1950 p. 69.

1458.—Wells, L. J. Subjection of fetal rats to surgery and repeated subcutaneous injections: method and survival. *Anat. Rec.* **108** 1950 pp. 309–332 2 figs.

1459.—Wendnagel, W. Okapi-Transport Stanleyville-Basel 1949. *Acta Tropica Basel* **7** 1950 pp. 112–118 2 figs.

Wendnagel, W. *vide* Scheidegger.

1460.—Werff, A. van der. On a characteristic diatom from the skin film of whales. *Amsterdam Nat.* **1** 1950 pp. 91–93 2 figs.

1461.—Werner, H. J., Dalquest, W. W. and Roberts, J. H. Histological aspects of the glands of the bat, *Tadarida cynocephala* (Le Conte). *J. Mammal. Baltimore* **31** 1950 pp. 395–399 2 pls.

1462.—West Country. Otters in the stream. *Field London* **196** 1950 p. 255 2 figs.

1463.—Wetzel, R. M. Additional records of Illinois mammals. *Trans. Ill. Acad. Sci.* **40** 1947 pp. 228–233.

1464.—Wezel, R. Über die Geweihformen der Schönbuchhirsche unter

Hinweis auf Beziehungen zu diluvialen Funden. Jh. Ver. vaterl. Naturk. Württemb. **97-101** 1949 pp. 151-198 36 figs.

1465.—Wharton, C. H. The Tarsier in captivity. J. Mammal. Baltimore **31** 1950 pp. 260-268.

1466.—Wharton, C. H. Notes on the life history of the Flying Lemur. J. Mammal. Baltimore **31** 1950 pp. 269-273.

1467.—Wharton, C. H. Notes on the Philippine Tree Shrew, *Urogale everetti* Thomas. J. Mammal. Baltimore **31** 1950 pp. 352-354.

1468.—Wheeler, J. F. G. The southern whaling industry and the problem of age in whales. Trans. R. Soc. Arts Sci. Mauritius Ser. C. No. 12 1945 pp. 25-36 2 graphs.

White, R. R. *vide* Wood.

1469.—Whitehead, G. K. Deer and their management in the Deer Parks of Great Britain and Ireland. London 1950 pp. 370 132 photos.

1470.—Whitehead, G. K. Deer stalking season, 1949. Field London **195** 1950 pp. 264-265 4 figs.

1471.—Whitehead, G. K. Measuring Chamois heads. Field London **195** 1950 p. 884.

1472.—Whitehead, G. K. Wild White Cattle. Field London **195** 1950 p. 928 1 fig.

1473.—Whitehead, G. K. White Fallow Deer. Field London **196** 1950 p. 225 1 fig.

1474.—Whitehead, G. K. Twin Red Deer calves. Field London **196** 1950 p. 380.

1475.—Whitehead, G. K. Malformed Roe-buck head. Field London **196** 1950 p. 420.

1476.—Whitehead, G. K. Deer in Britain. Field London **196** 1950 p. 686 1 fig.

1477.—Whitehead, G. K. Malformed Roe-buck head. Field London **196** 1950 p. 969.

1478.—Whitehead, G. K. Albino at Woburn. Field London **196** 1950 p. 1100 1 fig.

1479.—Whitehead, G. K. A close season for Deer. Country Life London **107** 1950 pp. 948-949 1 fig.

1480.—Whitehead, G. K. Saving the Steinbock from extinction. Country Life London **107** 1950 pp. 1229-1231 3 figs.

1481.—Whitehead, G. K. Habits of the Steinbock on the Gran Paradiso. Country Life London **107** 1950 pp. 1487-1488 2 figs.

1482.—Whitehead, G. K. Steinbock in the Gran Paradiso. Country Life London **107** 1950 pp. 1724-1727.

1483.—Whitehead, G. K. Deer Parks in Britain. Country Life London **108** 1950 pp. 2208-2210 4 figs.

1484.—Whitlock, S. C. The Black Bear as a predator of man. J. Mammal. Baltimore **31** 1950 pp. 135-137 1 fig.

1485.—Whittleton, W. G. Nature of the milk-ejection process. Nature London **166** 1950 p. 994.

1486.—Widdowson, E. M. Chemical composition of newly-born mammals. Nature London, **166** 1950 pp. 626-628.

1487.—Wieman, H. L. An Introduction to Vertebrate Embryology, 2nd ed., New York (McGraw Hill) **1949**, 412 pp. 247 figs.

1488.—Wierda, J. L. A comparison of the weight of the intestine with the body and kidney weights in rats which were fed artificial unbalanced diets. Anat. Rec. **107** 1950 pp. 221-233.

1489.—Wilber, C. G. and Musacchia, X. J. A comparative study of lipids in Arctic marine mammals. J. Mammal. Baltimore **31** 1950 pp. 162-167.

1490.—Wilber, C. G. and Musacchia, X. J. Fat metabolism in the Arctic Ground Squirrel. J. Mammal. Baltimore **31** 1950 pp. 304-309.

1491.—Wilcox, H. H. Histology of the skin and hair of the adult Chinchilla. Anat. Rec. **108** 1950 pp. 385-397 11 figs.

1492.—Wildash, P. C. T. Black Squirrels. Field London **195** 1950 p. 680.

Wilke, F. *vide* Scheffer.

1493.—Willemse, M. C. A. The shifting of the molar row with regard to the orbit in *Equus* and *Giraffa*. Zool. Meded. Leiden **30** 1950 pp. 311–326 tables.

1494.—Williams, R. G. and Roberts, B. An improved tantalum chamber for prolonged microscopic study of living cells in mammals. Anat. Rec. **107** 1950 pp. 359–372 1 pl. 3 figs.

1495.—Willis, G. G. Pine Marten and Polecat. Field London **196** 1950 p. 1137.

1496.—Willoughby, D. P. The Gorilla—largest living Primate. Scient. Monthly **70** 1950 pp. 48–57 7 figs.

Willoughby, R. *vide* Huestis.

Wilson, J. A. *vide* Hibbard.

1497.—Winge, O. Inheritance in Dogs, with special reference to hunting breeds. Ithaca N.Y. (Comstock Publishing Co.) 1950 pp. ix+153 5 pls. 5 figs 46 diagrams.

1498.—Winston, W. C. The largest whale ever weighed. Nat. Hist. N.Y. **59** 1950 pp. 393–399 12 figs.

1499.—Wirz, K. Studien über die Cerebralisation: zur quantitativen Bestimmung der Rangordnung bei Säugetieren. Acta Anatomica Basel **9** 1950 pp. 134–196.

Wirz, K. *vide* Portmann.

1500.—Wiseman, G. L. and Hendrickson, G. O. Notes on the life history and ecology of the Opossum in southeast Iowa. J. Mammal. Baltimore **31** 1950 pp. 331–337.

1501.—With, T. The biology of bile pigments. C.R. **13e** Congr. int. Zool. Paris 1948 [1949] pp. 104–107.

1502.—With, T. Animal biology of the carotenoids. C.R. **13e** Congr. int. Zool. Paris 1948 [1949] pp. 107–110.

1503.—W., M. British White Cattle. Field London **196** 1950 p. 148 1 fig.

1504.—Wodzicki, K. A. Introduced mammals of New Zealand, an ecological and economic survey. Bull. Dep. Sci. Ind. Res. Wellington No. **98** 1950 pp. 255 50 figs.

1505.—Wojtusiak, R. J. Extinct and vanishing mammals. Ochrona Przyrody Krakow No. **19** 1950 pp. 71–101 13 figs. [Polish with English summary].

1506.—Wood, A. E. Porcupines, paleogeography and parallelism. Evolution Lancaster Pa. **4** 1950 pp. 87–98 2 figs.

1507.—Wood, A. E. and White, R. R. The myology of the Chinchilla. J. Morph. Philadelphia **86** 1950 pp. 547–597 27 figs.

1508.—Woodruff, M. F. A. and H. G. The transplantation of normal tissues: with special reference to auto- and homotransplants of thyroid and spleen in the anterior chamber of the eye, and subcutaneously, in guinea-pigs. Philos. Trans. roy. Soc. London **234B** 1950 pp. 559–582 3 pls. tables.

Woodville, H. C. *vide* Harrison.

Woolley, G. W. *vide* Dickie.

1509.—Worth, C. B. Field and laboratory observations on Roof Rats, *Rattus rattus* (Linnaeus), in Florida. J. Mammal. Baltimore, **31** 1950 pp. 293–304 2 pls.

1510.—Worth, C. B. Observations on the behavior and breeding of captive Rice Rats and Woodrats. J. Mammal. Baltimore **31** 1950 pp. 421–426.

1511.—Worthington, E. B. The future of the African fauna. Oryx (J. Faun. Pres. Soc.) **1** 1950 pp. 44–50.

1512.—Wright, M. K. The definition of the preoptic region, in sub-primate mammalian brains, with special reference to the elephant shrew. S. Afr. J. med. Sci. **15** 1950 pp. 15–32 4 pls.

1513.—Wright, P. L. *Synaptomys borealis* from Glacier National Park, Montana. J. Mammal. Baltimore **31** 1950 p. 460.

1514.—Wright, P. L. and Conaway, C. H. Golden-mantled Marmot in Northwestern Montana. Murrelet, Seattle **31** 1950 p. 32.

1515.—Wright, S. On the genetics of hair direction in the Guinea Pig. III. Interactions between the processes

due to the loci R. and St. J. *exper. zool. Philadelphia* **113** 1950 pp. 33-63 4 figs.

1516.—Wyatt, C. Vicissitudes of the Alpine Ibex. Country Life London **107** 1950 p. 1139-1143 5 figs.

1517.—Wyatt, C. Wild life in the Alps. Country Life London **107** 1950 pp. 1395-1399 6 photos.

1518.—Wynter-Blyth, M. A. Report on the Lions of the Gir Forest 1950 pp. 1-25 1 map (Privately printed Rajkot).

1519.—Wynter-Blyth, M. A. A Census of Lions. Field London **196** 1950 p. 326-327 4 figs.

1520.—Wynter-Blyth, M. A. and Dharmakumarsinhji, K. S. The Gir Forest and its lions, Part II. J. Bombay nat. Hist. Soc. **49** 1950 pp. 456-470 1 pl.

Yang, S. H. *vide* Findlay.

Yaxley, D. C. *vide* Chance.

1521.—Yebes, Count. A Big-game hunting record? Country Life London **107** 1950 pp. 379-380 3 figs.

1522.—Yepes, J. A propos des sous-espèces de *Phyllotis darwini* (Rodentia-Cricetidae) distribuées au flanc oriental des Andes méridionales. C.R. 13e Congr. int. Zool. Paris 1948 [1949] p. 402.

1523.—Yocom, C. F. Fox Squirrels in Asotin County, Washington. Murrelet Seattle **31** 1950 p. 34.

1524.—Yoffey, J. M. The mammalian lymphocyte. Biol. Rev. Cambridge **25** 1950 pp. 314-343.

Yoffey, J. M. *vide* Robinson.

1525.—Yoshida, M. Research on methionine in Whale. Sci. Rep. Whales Res. Inst. Tokyo **3** 1950 pp. 102-105.

1526.—Young, C.-C. Notes on the Pontian mammalian fauna from Eastern Kansu. Nat. Peking Univ. 50th Ann. Pap. 1948 pp. 53-56.

1526A.—Young, C.-C. and Liu, P. T. Notes on a mammalian collection probably from the Yüshê series (Pliocene), Yüshê, Shansi, China. Contrib. Nat. Res. Inst. Geol. Acad. Sinica **8** 1948 pp. 273-291 4 pls. 1 fig.

1527.—Young, H., Strecker, R. L. and Emlen, J. T. Jr. Localization of activity in two indoor populations of House Mice, *Mus musculus*. J. Mammal. Baltimore **31** 1950 pp. 403-410 3 figs.

1528.—Young, J. Z. The Life of Vertebrates, Oxford 1950 pp. xvi+767 497 figs.

1529.—Yü-Ch'üan Tsang. The superficial arterial pattern of the ruminant brain. Peking nat. Hist. Bull. **18** 1949 pp. 107-117 5 pls.

1530.—Yü-Ch'üan Tsang. Visual centers in the rat and the mole-rat. Peking nat. Hist. Bull. **18** 1950 pp. 255-273 8 figs.

1531.—Yü-Ch'üan Tsang. Ventral-horn cell columns in the cervical and lumbar enlargements of the spinal cord of the bat. Peking nat. Hist. Bull. **17** 1949 pp. 175-182 2 pls.

1532.—Zabinski, J. The birth of a *Lycan pictus* L. in the zoological garden of Warszawa. Bijdr. Dierk. **28** 1949 pp. 550-555.

1533.—Zabinski, J. Work on restitution of the European bison. Ochrona Przyrody Krakow No. **19** 1950 pp. 101-115 6 figs. [Polish with English summary.]

1534.—Zangerl, R. and Denison, R. H. Discovery of early Cretaceous Mammals and frogs in Texas. Science Lancaster Pa. **112** 1950 p. 61.

1535.—Zapfe, H. Die Fauna der miozänen Spaltenfüllung von Neudorf an der March (C.S.R.) Chiroptera. Sitz. Ber. öst Akad. Wiss. Abt. I **159** 1950 pp. 51-64 9 figs.

1536.—Zapfe, H. Die Fauna der miozänen Spaltenfüllung von Neudorf an der March (C.S.R.) Carnivora. Sitz. Ber. öst Akad. Wiss. Abt. I **159** 1950 pp. 109-141 17 figs.

1537.—Zaphiro, B. D. Notes on Loelli game. Sudan Wild Life **1** No. 2 1949 pp. 6-17 1 map 1 chart.

1538.—[Zemski, V. A.] [Materials for the study of embryonic development of *Balaenoptera physalus* L. in the Antarctic.] Bull. Soc. Nat. Moscow Sect. Biol. **55** 1950 pp. 15-20. [In Russian.]

1539.—[Zhedenov, V. N.] [Classification of the types of lungs in mammals.] C.R. Acad. Sci. Moscow N.S. 74 1950 pp. 393-396. [In Russian.]

1540.—Zimmermann, K. Zur Kenntnis der mitteleuropäischen Hausmäuse. Zool. Jahrb. Jena (Syst.) 78 1949 pp. 301-322 2 figs.

1541.—Zimmermann, K. Die Randformen der mitteleuropäischen Wühlmäuse. Syll. biol. (Festschrift Kleinschmidt) Lutherstad 1950 pp. 454-471 2 figs.

1542.—Zinner, E. Neue Angaben über das Verhalten der Tiere bei Sonnenfinsternissen. Ber. naturf. Ges. Bamberg 1950 No. 32 pp. 35-50.

1543.—Zuckerman, S. South African fossil anthropoids. Nature, London 165 1950 p. 652.

1544.—Zuckerman, S. South African fossil hominoids. Nature London 166 1950 pp. 158-159.

1545.—Zuckerman, S. Taxonomy and human evolution. Biol. Rev. Cambridge 25 1950 pp. 435-485 tables.

Zuckerman, S. *vide* Ashton.

1546.—Zukowsky, L. Grosssäuger, die Hagenbeck entdeckte. Zool. Garten Leipzig 17 1950 pp. 211-221 7 figs.

History.—Early Hindu animal knowledge, JAYARAM 750; The classical rhinoceros, GOWERS 553; Important mammal discoveries of last century, M. BURTON 230; Californian mammals in Hakluyt (1589), ORR 1045; History of marsupial discoveries in W. Australia, GLAUERT 536; Unpublished Huxleyan anthropoid craniology plates, KEITH 790; References to Yak in classics, PRELL 1115.

Obituaries.—C. Forster-Cooper, D. M. S. WATSON 1444; Sir Sidney Harmer, KERR 799; C. B. Kloss, BANKS 95; L. Kraglievich, HUEGO and GAI 718; H. G. Maurice, CANSDALE 261, HINDLE 681; H. C. Raven, GREGORY 1135.

Bibliography.—C. B. Kloss, BANKS 95; H. C. Raven, RAVEN and others 1135; Bibliography of big game shooting in India and E. Asia, R. W. BURTON 236; *Okapia*, BRUHIN 207.

Taxonomy and Classification.—Reforms in nomenclature from Paris Congress, 1948, HEMMING 652.

Museums and Collections.—History of the Paris Museum collections, BERLIOZ 138; Spanish Big Game exhibition, BOLIN 157, F. WALLACE 1433; Craniostat and projector for measuring skulls, ASHTON and PARDOE 66.

Zoological Gardens.—Zoos and their management, HEDIGER 643; Usefulness of Zoos, M. BURTON 228; Identification marks for zoo animals, SCHNEIDER 1236; Electric fences for zoos, URBAIN and others 1390; Problems of Okapi keeping, HEDIGER 645; History of Woburn Park, BEDFORD 119; Present status of Woburn Collection, BEDFORD 123; List of new mammals imported by Hagenbeck, ZUKOWSKY 1546.

STRUCTURE

General.—The mammalian head, VEIT 1402; Physical distinctions of man among primates, A. H. SCHULTZ 1250; *Gorilla* anatomy, RAVEN and others 1135; Foot of *Tapirus*, BRESSOU 188; Types of lungs, ZHEDENOV 1539.

Integumentary and Epidermal Structures.—Cuticle of mammalian hair, APPLEYARD and GREVILLE 58; Egg-

II.—SUBJECT INDEX

GENERAL LITERATURE AND HISTORY

Text Books and General Works.—Introduction to mammalogy, BRESSE 186; Life of vertebrates, J. Z. YOUNG 1528; Vertebrate embryology, WIEMAN 1487; Textbook of paleozoology, KUHN 841; Anthropoid apes, URBAIN and ROBE 1394; The rabbit, LINCKE 887; The beaver, HINZE 683; Anatomy and physiology of larynx, NEGUS 1004.

Faunal Works.—Mammals of U.S.S.R., Vol. 7, OGNEV 1029; Small mammals of Kenya, COPLEY 317; Mammals of Victoria, BRAZENOR 185.

tooth in monotremes and marsupials, HILL and DE BEER 675; Hair tracts in marsupials, BOARDMAN 154, 155; Relation between nail and toe in primates, GASSER 507; Hair structure and colour factors in *Oryctolagus*, DANNEEL 351, 352, 353; Skin and hair of *Chinchilla*, WILCOX 1491; Sinus hairs of fin whale, OGAWA and SHIDA 1028; Hair character in dogs, BEEMBLOSSOM 126, TAKENOCHI 1335; Hair and bristles in pinnipeds, E. MOHR 968; Structure of hoof in horse, STRAUNARD 1322; Hair distribution in Siamese twin calves, DATHE 358; Dimensions of follicles in sheep skin, BURNS and CLARKSON 220; Wool analysis of Scotch blackfaced sheep, SLIWA 1280, SZALAJKO 1333.

Osteology: General.—Calcification of mammalian bones, WEIDMAN and ROGERS 1453; Skeletal key to U.S.S.R. mammals, GROMOVA 568; Feet structure in various mammals, KASYANENKO 781; Knee in some mammals, KASYANENKO 782; Pelvis form in relation to function in primates, KLENSCHMIDT 807; Skeletal analogies between armadillos and pangolins, FRECHKOP 479; Foot in Duplicidentates, KASYAMENKO 783; Skeletal polymorphism in *Mus*, GRUENEGER 574; Marrow of *Cricetus auratus*, TRINCAO and others 1376; Bone marrow distribution in Fin Whale, OHE 1032; Baculum in Procyonidae and Ursidae, DIDIER 391; Baculum growth in *Callorhinus*, V. B. SCHEFFER 1217.

Osteology: Skull.—Prognathism in mammals, HUSSON 727; Frontal sinus evolution, EDINGER 412; Homology of pterygoid, ELOFF 429; Interior nasal skeletal structure, GOMPPER 544; Interorbital septum, phylogenetic study HAINES 585; Value of cranial capacity in systematics, BOURDELLE and DEZILIERE 174; Variations in vomer in *Cebus*, DELLA SERRA 384; Embryonic skull of *Manis javanica*, STARCK 1294; Nasal region of *Lepus capensis*, ELOFF 428; Vomer-ethmoidal relation in rodents, ELOFF 427; Foetal skull of *Monodon*, EALAS 405; Sexual dimorphism in carnivores, BOUCHUD 173; Fossa rhomboides in elephant, HIROKAWA and EGAWA 684.

Dentition.—Teeth as subject for comparative biological study, PORT-

MANN 1107; Biochemistry of tooth enamel, BENNEJEANT 136; Milk dentition in *Nyctalus*, MATTHEWS 941; Statistical analysis of ape teeth variations, ASHTON and ZUCKERMAN 67; Dentition and age in farm animals, SIR G. BROWN 203; Histology and pathology of fossil teeth, BRAUER 183.

Myology.—Quantitative - histological analysis of red and white muscle, GRAF 556; Tensor tympani muscle in bats, WASSIF 1442; Facial musculature of rat, hamster, vole and lemming, MEINERTZ 949; Variations in superficial back muscles in *Rattus*, HOYER and LANE 714; Muscle fibres of rat diaphragm, SITARAMAYYA 1275; Cranial musculature in *Reithrodontomys*, RINKER and HOOPER 1156; Myology of *Chinchilla*, WOOD and WHITE 1507; Flexor muscles of forelimb in *Felis*, HAINES 586; Ligaments of leg-joints in *Equus*, GHETIE and RIGA 523; Pelvic ligament in *Sus*, PREUSS 1116.

Heart and Circulation.—Method for study of arterial anastomoses, McDONALD and POTTER 907; Comparative anatomy of anthropoid hearts, LEIDEL 873; Aorta of *Gorilla*, KLEINSCHMIDT 808; Blood supply to brain in New World primates, DECESIREY 375; Azygous veins in rabbit, BUTLER 243; Atrioventricular system of dog heart, BAIRD and ROBB 85; Coronary vessels in *Canis* dom., KAZZAZ and SHANKLIN 787; Heart in seals, MULLER 991; Heart of Indian elephant, FIGULA 447; Blood supply of ruminant brain, YU-CH'UAN TSANG 1529; Cardiac conduction system in *Bos*, BORSETTO 167; Blood supply of mesonephros in *Ovis* dom., J. DAVIES 361.

Haematology.—Leucocyte structure, SKVORTZOV 1278; Haemoglobin content of blood, BONDI 153; Erythrocytes of triploid rabbits, HAGQVIST and BANE 583; Blood of *Cricetus auratus*, TRINCAO and others 1376; Secretion of red blood corpuscles in *Camelus*, DURAN-JORDA 402.

Lymph and its Organs.—Mammalian lymphocyte, YOFFEY 1524; Lymphatic system in some hystricoids, OTTAVIANI 1052, in *Hydrochoerus*, OTTAVIANI 1053; Postnatal histogenesis of lymphatic system in *Cavia*, GYLLENSTEN 578.

Nervous System : General.—Comparative size of nerve fibres in various mammals, HAGGQVIST 581 ; Nervous system of mouth in suckling mammals, PIEFER 1094 ; Nerve cells of vagus, BOTAR and others 171 ; Progress in paleoneurology, EDINGER 411 ; Spinal cord cells in *Eptesicus*, YU-CH'UAN TSANG 1531 ; Rami communicantes in monkeys, BOTAR and others 172 ; Sensory apparatus of fin whale mouth and lips, OGAWA and SHIDA 1028 ; Plexus brachialis in elephant, MAYEDA and SUSUKI 945 ; Spinal cord in *Equus*, BRAUN 184.

Nervous System : Brain.—Degrees of cerebralisation in mammals, WIRZ 1499 ; Brain in rodents, insectivores and carnivores, BAIKATI and CONTU 84 ; Reduction of ectosylvia in brain of carnivores and primates, FRIANT 483 ; Preoptic region in *Elephantulus*, M. K. WRIGHT 1512 ; Thalamus in *Rhinolophus*, ISO 739 ; Primate brain external morphology, CONNOLLY 311 ; Insula in primate brain, LANDAU 851 ; External morphology of *Alouatta* and *Cebus* brains, J. ANTHONY 55 ; Endocranial casts of *Plesianthropus*, BROOM and others 202 ; Fornix of rabbit brain, SPRAGUE and MEYER 1291 ; Brain of rodents, CARETTE 265 ; Pyramidal tract in rodents, DOUGLAS and BARR 396 ; Brain morphology in dogs, OBOUSSIER 1024 ; Brain of *Vulpes*, J. ANTHONY 56 ; Medulla oblongata in elephant, EGAWA and HIROKAWA 413 ; Brain of Ungulates, CONTU and MACCAGNANI 312 ; Brain in Rhinoceroses and other Perissodactyles, FRIANT 487 ; Cerebral index of Okapi, PORTMANN and WIRZ 1108.

Sense organs.—Degeneration in mammalian eye, CEI 281 ; Histology of rabbit cornea, GRIGORYEVA 567 ; Visual centres of rat and mole rat, YÜ, CH'UAN TSANG 1530 ; Eye in dog, SILVA 1270 ; Olfactory apparatus of elephant, KOIKEGAMI and others 325 ; Eye of *Okapia*, BRÜCKNER 206 ; Iris of *Sus*, THEILER 1353.

Vocal Organs.—Larynx anatomy, NEGUS 1004 ; Larynx in primates, KLEINSCHMIDT 809 ; Larynx in Cetacea, HOSOKAWA 710.

Alimentary System.—Pyloric and duodenal glands, BURKL 219 ; Vascular arrangements of spleen, SNOOK 1236 ;

Liver structure, ELIAS 424 ; Size of liver and spleen, GARVEN 505 ; Microscopic structure of gall bladder and intestinal epithelium in primates, RALPH 1127 ; Alimentary system of *Arctocebus*, W. C. O. HILL 676 ; Alimentary system of *Gorilla*, KLEINSCHMIDT 810 ; Masticatory structure in Edentates, KÜHLHORN 840 ; Appendix in rodents, HARDER 605 ; Mucosal surface of rat intestine, FISHER and PARSONS 453 ; Alimentary canal in *Sigmodon*, BLANK 152 ; Anatomy of tongue and throat of *Elephas*, GHETIE 522 ; Urinary system of camel, TAYEB 1340 ; Liver and gall-bladder in *Giraffa*, CAVE 280.

Reproductive System.—Utero-vaginal tract, PUJULA 1120 ; Urogenital system in female *Hypsiprymnodon*, J. PEARSON 1068 ; Primate placenta, STIEVE 1307 ; Male external genitalia of *Gorilla*, HILL and MATTHEWS 679 ; Anterior scrotal position in lagomorphs, PETRIDES 1084 ; Rudimentary mammary glands in rodent embryos, RAYNAUD 1140 ; Urinogenital tract in male *Stenella frontalis*, L. H. MATTHEWS 942 ; Structure and functions of milt in *Equus*, HARTWIG 626 ; Oviduct in *Bos dom.*, LOMBARD and others 894 ; Morphology of normal bovine uterus and oviduct, DAWSON 371 ; Reproductive tract in *Antilocapra*, TRYON and BUCK 1380.

Endocrine Glands.—Relative size of endocrine glands in mammals, with special reference to the islet of Langerhans, PADOUR 1057 ; Thyroid follicle, S. E. JOHNSON 759 ; Cytology of thymus, ROMIEU and STAHL 1169 ; Glycogen in cortical thymic cells, SMITH and THOMAS 1283 ; Variations in adrenal cortex in *Rattus*, CAIN and HARRISON 251 ; Whale pituitary structure, G. W. HARRIS 611 ; Hypophysis in relation to body weight in dogs, OBOUSSIER 1023 ; Thyroid weights in cattle, CAMPBELL and FLUX 260 ; Zona glomerulosa cells in bovine adrenal, WEBER and others 1448.

Other Glands.—Submaxillary poison glands in shrews, O. P. PEARSON 1071 ; Face glands in *Tadarida*, WERNER et al. 1461 ; Salivary glands in *Mus*, BORGHESE 163 ; Snout gland in *Hydrochoerus*, REWELL 1149 ; Prenatal growth of mammary gland in *Mus*, BALINSKY 92 ; Carpal glands in

Potamochoerus, DOUCET 395; Sweat glands in cattle, FINDLAY and YANG 448; Pancreatic duct in cattle, PAIVA and D'ERRICO 1059; Functional anatomy of prostate gland in cattle, SCHENKER 1230.

Teratology and Abnormalities.—

Polygnathly in *Neomys*, CANTUEL and DIDIER 264; Man with tail, KOMAI 827; Deformed skulls in captive oranges, SCHEIDEGGER and WENDNAGEL 1227; Nasal bone anomaly in *Bos*, ROSATI 1171; Abnormal clavicle in tiger, GIBBS 525; Anatomical anomalies in *Felis* dom., GOODMAN 546; 3-legged *Rattus*, HÜTER 729; Tailless rat, KOBOZIEFF and others 816; Anomalies in foetal *Canis* dom., LATIMER 860; Abnormal artery in *Cervus*, DAM 347; Carotid anomaly in *Oryctolagus*, REITER 1143; Anomalous heart circulation in *Felis* dom., FRONTERA 490; 4-tusked elephant, ANON. 3; Dental anomalies in deer, EIDMANN 418; Abnormal Roe head, WHITEHEAD 1475, WELCH 1457; Incomplete twinning in rabbit, COCK 304; Median eye in partially dicephalic *Felis* dom., ELLINGER and others 425; Siamese twin calves, DATHE 358; Genetic abnormalities in pigs, DABCZEWSKI 339; Polydactyle strains in *Mus*, R. A. FISHER 452; X-ray induced abnormalities in *Mus*, L. B. RUSSELL 1182.

Histology and Cytology.—Cytology of thymus, ROMIEU and STAHL 1169; Striated border of intestinal epithelium, GRANGER and BAKER 558; Perinuclear bodies in mammalian epidermis, MONTAGNA 972; Technique for determination of mitotic activity, CHRISTENSEN 294; Golgi apparatus of sympathetic neurones, MOUSSA and GATENBY 989; Cytology of the bone marrow in Rodents, AYZENBERG-TERENTIEVA 80; Cytoplasm of rodent ova, JONES-SEATON 769; Sertoli cell cycle in *Mus*, ELFTMAN 423; Epicytes in *Mus*, MACKLIN 921; Histology of female genital tract in *Otaria*, BUNO and others 217; Cytoplasmic basophily in mammalian ova, JONES-SEATON 770; Multiple sex chromosomes in marsupials, SHARMAN and others 1267; Chromosomes of triploid rabbit, MELANDER 950; Chromosomes of some rodents, HARPST and MARTIN 609; *Mus* chromosomes and new

technique for their study, SLIZYNSKI 1281; Sexual chromosomes of *Microtus*, MATTHEY 943; Tantalum chamber for study of living cells, WILLIAMS and ROBERTS 1494; New techniques for study of cytology, WAUGH 1447.

Biochemistry.—Biochemistry of newly born mammals, WIDDOWSON 1486; Analysis of animal droppings, HUTCHINSON 728; Effect of trace elements on growth, KLOSTERMAN and others 813; Carotenoid biology, WITH 1502; Bile pigments, WITH 1501; Biochemical structure of enamel, BENNEJEANT 136; Alkaline phosphatase in dentinogenesis, E. S. HARRIS 610; Alkaline phosphatase in *Rattus* intestine, HEBERT 640; Phosphatase secretion in rabbit liver, HARD and HAWKINS 602; Acid mucopolysaccharides, BUNTING 218; Hydrocyanic acid formation in sheep rumen, BLAKLEY and COOP 151; Vanadium in animals, BERTRAND 141; Choline esterase in dog nerve, HARD and PETERSON 603; Lipids in arctic marine mammals, WILBER and MUSACCHIA 1489; Biochemistry of lactation in *Bos*, ACHAYA and HILDITCH 30; Analysis of whale fats and oils, MORI and SAIKI 984; Methionine content in whale meat, YOSHIDA 1525; Iodine values in whale stocks, LUND 896, 897; Insulin content of whale pancreas, JORPES 771; Whale oil fatty acids, PEDERSEN 1074; Respiratory pigments of cetacea, TAWARA 1339.

Techniques.—Coloured plastic injections to demonstrate circulation, KAZZAZ and SHANKLIN 787; Electron-microscopic techniques, BRETSCHEIDER 189; Iron stain for study of alveolar development in mammary gland, RAWLINSON 1136.

PHYSIOLOGY

General.—Morphology modified by physiological adaptations, DECHAMBRE 376; Trichobezoars in *Peromyscus*, HORNER 708; Endourethral casts in *Castor*, G. F. JONES 766; Death-feigning, HARTMAN 625; Dwarfism in African goats, CHANG and LANDAUER 286; Histology of tail regeneration in dormice, HAFFNER 579; Elasticity of ox synovial fluid, OGSTON and others

1031; Glycogen relation to mitosis, BULLOUGH and EISA 215; Appendix in rodents, HARDER 605.

Integument.—Development of mammary glands and epidermal structures, BALINSKY 91; The hoof in horse, STRAUNARD 1322; Differentiation of epidermis in tissue culture, HANSON 599.

Nutrition and Metabolism.—Effect of humidity on metabolism, HART 622; Metabolism—temperature relations, HART 623; Magnesium of grass availability to ruminants, GARNER 503; Fermentation in sheep rumen, GRAY and PILGRIM 559; Fat accumulation in pig embryos, ALEXANDROWICZ 43; Water metabolism in newly born *Rattus*, SCHREIBER 1245; Water requirements of breeding *Peromyscus*, LINDBERG 888; Desert animals and water requirements, ST. JOHN 1311; Water metabolism of desert rodents, SCHMIDT-NIELSEN 1232; Pulmonary water loss in desert rodents, SCHMIDT-NIELSEN 1233; Kangaroo rats and salt water, SCHMIDT-NIELSEN 1234; Toxicity of sea water, ALBRECHT 42; Fat metabolism in arctic marine mammals, WILBER and MUSACCHIA 1489; Fat metabolism in arctic *Citellus*, WILBER and MUSACCHIA 1490; Sweat glands and adaptation of cattle to tropical climates, FINDLAY and YANG 448; Intestine and body weights of rats on unbalanced diets, WIERDA 1488; Phosphorus metabolism of brain in *Mus*, DAWSON and RICHTER 372; Dietetic resistance to audiogenic seizures, GRIFFITHS 566; Effect of growth on metabolic balance in *Cavia*, FLEXNER and FLEXNER 463; Digestive power of whale pancreatic enzyme, ISHIKAWA 738; Action of vitamin A on bone, BARNICOT 103; Coprophagy in rabbits, HARDER 605.

Heart, Circulation and Blood.—Prenatal circulation physiology, BRAMBELL and others 181; Splenic circulation in *Rattus*, GALL and MAEGRAITH 496; Pituitary extract effects on blood pressure in *Ornithorhynchus*, FEAKES and others 437; Catalase activity in blood, BONDI 158; Blood transfusion in laboratory animals, GONZALEZ 545; Haemolysis of mammalian red cells by heat, PONDER 1104; Pelger-anomaly of leucocytes, NACHTSHEIM 994; Formation of new

blood vessels in cat, TROITSKI 1377; Pulmonary blood in postnatal *Cavia*, SINHA 1274; Serological identity of camel and lama, MASKAR 936; Serological affinities of Cetacea, BOYDEN and GEMEROY 179.

Nervous System.—Function of brain areas, LASHLEY 857; Phosphorus metabolism of brain in *Mus*, DAWSON and RICHTER 372; Glycogen relation to brain convulsions, CHANCE and YAXLEY 283; Restoration of motor function in *Macaca*, GLEES and COLE 538; Hypothalamic control of food intake in rats, KENNEDY 798; Nerve centres in dogs, POPOV 1105; Control of nerve-cell activity, ADRIAN 37; Nerve implants in muscle, AITKEN 40; Nerve transplants, TCHIKUNOVA 1342.

Muscle, Bone and Teeth.—Muscular dynamics and locomotion, A. V. HILL 674; Muscle regeneration, IGNATYEVA 731; Studies in rigor mortis, DALE SMITH 342; Physiology of movable joints, E. GARDNER 499; Bone healing in wild mammals, HEINZERLING 647; Regeneration of fractured bones, VORONIN 1423; Genetic variations in sternum in rabbit, PECK and SAWIN 1073; Histological investigations on experimental osteogenesis, LEVIKOVA 883; Shortening of molar row in *Equus* and *Giraffa*, WILLEMSE 1493; Naturally shed molars in elephant and rhinoceros, E. MOHR 967; Resorption defects in recent and fossil mammal teeth, TAUBER 1338; Tooth tissue absorption in *Physeter*, BOSCHMA 168; Influence of diet on dental development in sheep, FRANKLIN 471; Experimental enamel hypoplasia, J. T. IRVING 736.

Sense Organs.—Orientation in bats, MÖHRES 969; Function of noseleaves in bats, MÖHRES 970; Orientation and homing in bats, MÖHRES and OETTINGEN-SUELBERG 971; Orientation in *Mus*, NEUHAUS 1005; Tasting powers of animals, BAGNALL 83; Scenting powers in dogs, R. W. BURTON 235; Sense of smell in sheep, TRIBE 1374; Hearing in "short-ear" mice, BUNDY 216; Audiogenic seizures and diet, GRIFFITHS 566; Colour vision in grazing sheep, TRIBE and GORDON 1375; Age changes in whale eye colour, NISHIWAKI 1015; Specificity of corneal epithelium, BILLINGHAM and MEDAWAR 149.

Endocrinology.—Text book of hormone physiology, BUDDENBROCK 210; Pituitary regeneration, HARRIS and JOHNSON 612; Pituitary extract effects on submaxillary gland in *Rattus*, GABE 494; Adreno-pituitary exhaustion in rodent cycles, CHRISTIAN 298; Pituitary grafts, MARTINOVITCH 935; Effect of domestication on *Sus* hypophysis, OBOUSSIER 1022; Comparative investigation of hypophysis in domestic animals, HERRE 660; Effect of hypophysectomy on growth in *Rattus*, WALKER and others 1429; Hypophysectomy effect on skeletal growth in *Rattus*, ASLING and others 70; Thymus and body weight relation, G. DAHLBERG 341; Histochemical reactions of adrenal cortical cells, FELDMAN 439; Effect of low temperatures on suprarenal cortex in *Rattus*, ROBINSON and YOFFEY 1167; Effect of DOCA on adrenal cortex in *Rattus*, OVERZIER 1055; Postnatal development of adrenal cortex in *Rattus*, VAN DORP and DEANE 1400; Rate of secretion of thyroxine in rabbit, MAQSOOD 932.

Other Glands.—Physiology of lactation, WHITTLETON 1485; Histo-physiology of mammary gland, TURCHINI 1381; Physiology of milk secretion, FOLLEY 464; Biochemistry of lactation, experimental studies, PEETERS and MASSART 1075; Mammary gland development and effect of testosterone, GRAAF and others 555; Pituitary stimulus to lactation, GROSS and HARRIS 328; Development *in vitro* of mammary glands in *Mus*, M.-H. HARDY 607; Regeneration of sebaceous glands, MONTAGNA and CHASE 973; Function of cheek gland in *Arvicola*, ORTMANN 1049; Submandibular and sublingual glands in *Mus*, BORGHESE 161; Development of salivary gland in *Mus*, BORGHESE 164; Submaxillary gland, results of pituitary treatment, GABE 494.

Growth, Weight, Mensuration.—Growth measurement in farm animals, HAMMOND 595; Age of farm animals determined by teeth, SIR G. BROWN 203; Growth in polyploid rabbits, HAGQVIST and BANE 584; Age determination in *Mus musculus*, VARSHAVSKI 1401; Comparative intestine and body weights of rats on unbalanced diets, WIERDA 1488; Body size and organ weight, ADDIS and GRAY 34;

Body size and suprarenal weight, ADDIS and GRAY 35; Body size and gonad weight, ADDIS and GRAY 36; Growth in *Bandicota*, HARRISON and WOODVILLE 619; Prenatal growth in *Cricetus*, PURDY and HILLEMANN 1125; Size and muscular dynamics, A. V. HILL 674; Growth marks on Pinnipedia teeth, V. B. SCHEFFER 1220; Carcase weight relationships in *Odocoileus*, HAMERSTROM and CAMBURN 592; Record Leopard? JAMES 747; Growth of white rhino in captivity, BIGALKE and others 147; Growth of captive born *Elephas maximus*, E. M. HINDLE 680; ? Record African elephant tusk, BORMANS 166; Growth in *Giraffa*, REVENTLOW 1147; Artificially produced giant horns in *Bos bubalis*, WEGNER 1451; Record Scotch deer heads, 1949, WHITEHEAD 1470; Red Deer, heights, JOHNSTONE 761; Antler growth and variation in deer in Germany, WEZEL 1464; Growth of young chimpanzee, CATEL 278; *Gorilla* measurements and weights, WILLOUGHBY 1496; Age determination in fur pelts, PETRIDES 1083; Hypophysectomy effect on growth in *Rattus*, WALKER and others 1429; Hypophysectomy effect on skeletal growth in *Rattus*, ASLING and others 70; Skeletal development in *Cricetus*, BEATTY and HILLEMANN 116; Problem of age in whales, WHEELER 1468; Age and growth in blue whales, OTTESTAD 1054; Age determination in *Balaenoptera*, RUUD 1186; Age and growth analysis of blue whales, RUUD and JONSGARD 1187; Age factors in baleen plates, NISHIWAKI 1016; Whale body weight data, NISHIWAKI 1017; Weight data for whales, OMURA 1041; Weight of large blue whale, WINSTON 1498.

Longevity.—Longevity in *Eptesicus fuscus*, BANFIELD 94; Longevity in *Myotis*, BARBOUR 99; Longevity in *Sciurus niger*, GREENE 562; Longevity in *Halichoerus*, MATHESON 940; In elephants, H. A. ALI 45.

Mortality.—Heavy mortality at sea of young fur seals, V. B. SCHEFFER 1224; Mortality in wild elephants in Assam, GEE 512, 515; Mortality and longevity in *Bandicota*, HARRISON and WOODVILLE 619; Mortality in London Zoo, 1948, REWELL 1143; 1949, REWELL 1150; Deaths in Vincennes Zoo, 1949, URBAIN and others 1392.

Respiratory Organs.—Alveolar epithelium in the lung, SHORT 1269; Respiratory pigments of cetacea, TAWARA 1339.

Voice.—Larynx physiology, NEGUS 1004; Development of epithelial primordium of rat larynx, WALANDER 1428; Larynx in cetacea, HOSOKAWA 710; Death cry of tiger, R. W. BURTON 238.

Locomotion.—Speed and muscular dynamics, A. V. HILL 674; Tractive power in horses, PRAWOCHENSKI and others 1114; Jumping ability of mammals, M. BURTON 229; Horsepower of whale, COLAM and HILL 306; Speed of dolphins, G. A. STEVEN 1302; Speed of rhinoceros, EBLE 408; S. J. MOORE 978; Bat flight photos, CASSEL 277; Rat and mouse tracks, KEMPER 797.

Albinism, Melanism.—Albinistic and melanistic rats in wild populations, J. L. HARRISON 616; Albinism in bats, SETZER 1260; in wild *Rattus*, GIBSON-HILL 527; Giraffe, PETZSCH 1090; in *Dama*, WHITEHEAD 1473; in Red Deer at Woburn, BEDFORD 121; WHITEHEAD 1478; in *Damaliscus*, FRECHKOP 480; in *Adenota*, URBAIN and BULLIER 1389; Melanism in British grey squirrels, BEDFORD 118; Black squirrels in Cambridgeshire, G. CARE 268.

Moult and Pelage Change.—Arctic hare retaining winter coat, DONOVAN 393.

Hibernation.—Physiology of hibernation, KAYSER 785, 786; Hibernation metabolism, LYMEN and CHATFIELD 901; Recent knowledge, M. BURTON 225; Comparative hypoxic resistance of hibernators and non-hibernators, HESTAND and others 673; Experiments on hibernation in *Citellus*, ARBUZOV 61; Barometric pressure and hibernation in *Citellus*, GAJE 495; Soil temperature and emergence from hibernation in *Citellus*, WADE 1426; Stomachal secretion during the winter-sleep in *Citellus suslica*, PERSON 1079; Waking mechanisms in hibernating *Cricetus*, LYMAN and CHATFIELD 902; Artificial insulin hibernation in *Erinaceus*, P. SUOMALAINEN 1328.

Light and Temperature Studies, etc.—Influence of light on breeding, BELAYEV 131; Influence of light on *Citellus*

suslica GULD, JERASIMENKO 520; Effects of simulated high altitudes on *Rattus* physiology, MALMEJAC and others 925; Body insulation in arctic mammals, SCHOLANDER and others 1241; Heat regulation in arctic and tropics, SCHOLANDER and others 1242, 1243; Physiology of arctic mammals, L. IRVING 737; Body temperature in relation to distribution and habitat, ULLRICH 1386; Effect of low temperature on heart, GIAJA and ANDJUS 524; Thermoregulation and oxygen consumption, O'CONNOR 1025; O'CONNOR and MCKEEVER 1026; Temperature of *Mus* dom., WEIR 1456; Temperature and oxygen in *Mus*, MEDVEDEVA 947; Temperature and age in *Microtus socialis*, POLYAKOV and PEGELMAN 1103; Thermoregulation in ontogenesis in *Citellus*, VIDOVICH and POPOVICH 1406.

Pathology.—Congenital photosensitivity in sheep, HANCOCK 597; Adrenopituitary exhaustion in rodent cycles, CHRISTIAN 298; Natural and experimental caries, KEIL 788; Pathological investigation of fossil teeth, BRAUER 183; Skull deformities in captive oranges, SCHEIDEGGER and WENDNAGEL 1227; Causes of mortality in London Zoo, 1949, REWELL 1150; Causes of deaths in Vincennes Zoo, URBAIN and others 1392; Skin tumors in deer, HERMAN and BISCHOFF 658; Tumours in whales, STOLK 1317; Septicaemia in *Fiber*, URBAIN and PIETTE 1391; Rabies in tigers, R. W. BURTON 239; Tuberculosis in primates, MEYN 957; *Spirillum minus* in Kenya rats, HEISCH 648; *Peromyscus* immunity to reinfection with *Trypanosoma*, PACKCHANIAN 1056; Tularemia in *Zapus*, NAKAMURA 996; Insectivores and tularemia, OLSUFYEV and DUNAIEVA 1040; Scrub typhus in Malayan rats, TRAUB and others 1372; Epidemic in elephants, GEE 516; *Elephantulus* as malaria vector, HOOGSTRAAL 696; Rats and plague in Uganda, HOPKINS 707; Yellow fever tests on Brazil mammals, HUGHES and PERLOWAGORA 720; Immunity of Brazilian primates to yellow fever, KUMM and LAEMMERT 845; *Alouatta* susceptibility to yellow fever, LAEMMERT and KUMM 848; Sylvatic plague in *Meriones*, BALTAZARD and MOFIDI 93; Sylvatic plague in *Cynomys*, ECKE and JOHNSON 409;

Clinical observations on *Okapia*, E. M. LANG 852; Helminthiasis in *Okapia*, SCHEIDEGGER 1226.

Transplants and Grafts.—Transplants of tissue, WOODRUFF 1508; Transplantation of hematopoietic tissues into bloodstream, OSOGOE 1051; Pigment spread grafting experiments, BILLINGHAM and MEDAWAR 148; Stomach lining grafts in *Mus*, COQUOIN-CARNOT 318; Corneal epithelium, BILLINGHAM and MEDAWAR 149; Pituitary explant grafts, MARTINOVITCH 935.

Laboratory Technique.—Laboratory animal breeding methods, SPECHT 1288; Method of blood transfusion in laboratory animals, GONZALEZ 545; Method for study of arterial anastomoses, McDONALD and POTTER 907; Technique of surgery on foetal rats, WELLS 1458.

REPRODUCTION AND SEX

General Problems.—Mechanism of sex differentiation, DANTCHAKOFF 354; Review of experimental work on sex differentiation, PETTER 1088; Sex ratios in *Rattus*, SCHEIN 1228; Productivity and sex ratio in *Cervus canadensis*, H. V. GREEN 560; Tests for reproductive status in male small mammals, CHRISTIAN 295; Sex determination in fur pelts, PETRIDES 1083; Breeding biology of Canidae in captivity, SCHNEIDER 1240; "Fairy rings" of Roe Deer, BUXTON 246; Review of methods of artificial insemination, BRESSOU 187; Reproduction and maternal influence on birth weight in *Oryctolagus*, VENGE 1403; Influence of age on progeny in *Equus*, VITT 1419; Genetics of sterility in male *Mus*, GLUECKSOHN-SCHOENHEIMER and others 539; Intra-uterine mortality in *Mus*, HOLLANDER and STRONG 694; Reproduction in some Indian bats, IYER 742; Prenatal growth in *Cricetus*, PURDY and HILLEMANN 1125; Histology of corpora lutea in whales, LENNEP 875; Experimental techniques on rabbits, MATHER 937; Epithelial changes in uterus of *Elephantulus*, VAN DER HORST 1399; Testes and baculum growth in *Callorhinus*, V. B. SCHEFFER 1217; Twinning in Red Deer, MACNAUGHTON 922; WHITEHEAD 1474.

Reproduction in Special Forms.—*Ornithorhynchus* reproduction in captivity, FLEAY 462; Reproduction in *Erinaceus*, STEVE 1308; Early development in *Elephantulus rozeti*, LANGE 854; Seasonal breeding activity in *Apodemus*, RAYNAUD 1137, 1138; External factors affecting sexual activity in *Apodemus*, RAYNAUD 1139; *Rattus rattus* in London and Cyprus, J. S. WATSON 1446; Reproductive capacity in *Ondatra*, GASHWILER 506; Mating in whales, NISHIWAKI and HAYASHI 1018; Reproduction in Antarctic fin whales, LEMSKI 874; Reproduction in *Lynx rufus*, POLLACK 1101; Breeding of *Lycaon* in captivity, ZABINSKI 1532; Breeding biology of *Capreolus*, STEVE 1310; Roe and their rings, BUXTON 245.

Ovary and Ovulation Problems.—Ovulation in post-parturitional *Mus*, RUNNER and LADMAN 1181; Connective tissue in oogenesis, KELLER 791; Polyovular follicles in *Mus*, FEKETE 438; in *Rattus norvegicus*, DAVIS and HALL 366; in *Marmota*, CHRISTIAN 297; Cytoplasmic structure of rodent ova, JONES-SEATON 769; Cleavage of unfertilized ova in ferrets, CHANG 285; Technique for rat egg fertilization study, AUSTIN 78; Rabbit ovum transplants, CHANG 284; Transplantation of fertilized ova, DOWLING 397.

Oestrous and Sex Cycle.—Oestrous changes in oviduct of *Bos dom.*, LOMBARD and others 894; Oestrous cycle in *Mus* under colchicine treatment, H. SUOMALAINEN 1327; Sex skin changes in *Macaca*, DURAN-REYNALS and others 403.

Pregnancy and Gestation Periods.—Physiology of delayed gestation in *Capreolus*, STEVE 1309; Superfoetation in *Didelphis*? HARTMAN 624; Winter foetus in *Myotis*, GUILDAY 576; Gestation in *Ochotona*, SEVERAID 1264; Gestation in *Marmota*, HOYT 715; Prenatal mortality in *Cricetus*, PURDY and HILLEMANN 1123; Foetal study, and pregnancy in whales, MIZUE and JIMBO 961.

Placentation.—Placentation in *Elephantulus*, VAN DER HORST 1398; in *Scotophilus*, GOPALAKRISHNA 548, 549; in *Lyroderma*, GOPALAKRISHNA 550; Placental tissue changes in *Cricetus*,

PURDY and HILLEMANN 1124 ; Placental development in *Cricetus auratus*, ADAMS and HILLEMANN 33 ; Amniotic fluid production in *Cricetus*, PURDY and HILLEMANN 1122 ; Amniogenesis, VAN DER HORST 1397.

Testes and Spermatozoa.—Precocious young male *Microtus*, CHRISTIAN 296 ; Method of determining fecundity in male small mammals, JAMESON 749 ; Temperature experiments on mouse spermatozoa, HARDBERGER 604 ; Electron microscopy of bull sperm, RAVEN 1134 ; Cytoplasm of male germ-cell in rat and mouse, GRESSON 565 ; Spermatozoa *in vitro* penetration of ovum, MORICARD 985 ; Uterine fluid effect on uterine sperm, LEONARD 876.

Parturition.—Head presentation in Indian bats, RAMAKRISHNA 1128 ; Birth of kangaroo, DATHE 357 ; Pregnancy and parturition in Cetacea, SLIJPER 1279.

Lactation.—Review of physiology of lactation, FOLLEY 464 ; Biochemistry of lactation, PEETERS and MASSART 1075 ; Effect of testosterone on mammary gland development, GRAAF and others, 555.

Intersex.—Hermaphrodite ferret, ROSE, 1172 ; A maned lioness, SCHNEIDER 1235 ; Antlered female Axis, CHUR 301 ; Cryptorchid *Cervus*, G. E. HUDSON 716.

Hybridization.—Primate hybrids, MONTAGU 974 ; Lion-tiger hybrids, LEYHAUSEN 885 ; Tiger-lion hybrid in Paris, URBAIN and RINJARD 1393 ; *Thalarcos* × *Ursus* hybrids, M. DAVIS 368 ; Hybrid zebra at Schönbrunn, ANTONIUS, 57 ; Hybridization in zebras, RZASNICKI 1189.

DEVELOPMENT

Early Stages.—Vertebrate embryology, WIEMAN 1487 ; Development of egg-tooth in monotremes and marsupials, HILL and DE BEER 675 ; Early embryology in *Scotophilus*, GOPALAKRISHNA 548 ; Abnormalities in embryo *Elephantulus*, VAN DER HORST 1396 ; Embryology of *Balanoptera*, ZEMSKI 1538 ; External characters of three fetuses of Indian elephant, AYER and MARIAPPA 79 ; Foetal development of *Odocoileus*, ARMSTRONG

64 ; Mouse embryo development BONNEVIE 159.

Nervous System.—Development of mesonephros in *Ovis dom.*, J. and D. V. DAVIS 362.

Glands.—Submandibular and sublingual glands in *Mus*, BORGHESE 161 ; Submandibular gland in *Mus*, BORGHESE 162 ; Development of mammary glands and epidermal structures, BALINSKY 91 ; Mammary gland in *Mus*, BALINSKY 92 ; Mammary glands of *Mus* *in vitro*, M. H. HARDY 607.

Other Organs.—Foetal yolk-sac of rabbit, B. MORRIS 986 ; Development of azygous vein in *Rattus*, BUTLER 243 ; Osteogenesis in *Cricetus*, BEATTY and HILLEMANN 116 ; Embryonic development of urogenital tract in insectivores, GODET 541 ; Nose leaf structure in embryonic *Rhinolophus*, SITT 1276 ; Prenatal larynx epithelium in *Rattus*, WALANDER 1428.

EVOLUTION AND GENETICS

Evolution ; General.—Some factors in evolution, RENSCH 1144 ; Time series and trends in evolution, ROMER 1168 ; Non-specialization in evolution, EISELEY 419 ; Brain evolution results of paleoneurological development, EDINGER 411 ; Size inheritance, BUTLER and METRAKOS 244 ; Phylogeny of vision in mammals, CEI 281 ; Evolution of neotropical mammals, SIMPSON 1272 ; Frontal sinus evolution, EDINGER 412 ; Pelger anomaly, NACHTSHEIM 995.

Evolution ; Primates.—Textbook introduction to anthropology, HOEBEL 687 ; History of primate evolution, LE GROS CLARK 866 ; New evidence on origins of Hominoidea, LE GROS CLARK 870 ; New views on early man, HEBERER 639 ; Taxonomy and human evolution, ZUCKERMAN 1545 ; Man's relation to apes, W. C. O. HILL 677 ; Relationships of early primates, BARTH 105 ; Review of recent work on human evolution, DAWE 370 ; Human palaeontology, CHARLES 288 ; The "missing link," BROOM 192 ; Relationships of Australopithecinae, BROOM and ROBINSON 195 ; Pelvis in S. African ape-men, BROOM and ROBINSON 198 ; Additional evidence on

structure and relationships of *Plesianthropus*, BROOM and others 202; Position of Australopithecinae, SAUTER 1202; Quantitative dental characters of fossil anthropoids, ASHTON and ZUCKERMAN 68; Effect of isolation on *Cercopithecus* teeth, ASHTON and ZUCKERMAN 69; New classification of fossil man, FRASSETTO 477; Evolutionary significance of protostylid A. A. DAHLBERG 340.

Evolution : Other Orders.—Evolution in Aretocyonid teeth and jaws, WEIGELT 1454; Cetacea and Artiodactyla serological affinities, BOYDEN and GEMEROY 179.

Mutation and Variability.—Mutation rates and detection, FALCONER 436; Black to brown mutation, M. E. WALLACE 1435; Piebald mutation in sheep, P. W. GREGORY 564; Pattern variation in *Glauconycteris*, HAYMAN and JONES 635; Abnormal colour pattern in *Tamias*, SVIHLA and LARRISON 1329; Colour variations in *Rangifer* HERRE 661.

Genetics : General Problems.—Chemically-induced polyploidy, HAGGQVIST and BANE 582, 583, 584; Chromosomes of triploid rabbit, MELANDER 950; Polyploidy in *Oryctolagus*, a criticism, BEATTY and FISCHBERG 117.

Genetics : Researches in *Mus*.—Embryology of *Mus* genes reviewed, GRUNEBERG 572; Skeletal polymorphism in *Mus* GRUNEBERG 573, 574; Male sterility, GLUECKSOHN-SCHOENHEIMER 539; X-ray induced abnormalities, L. B. RUSSELL 1182; Skeletal variations in wild *Mus*, W. WEBER 1450; Polydactyle strains, R. A. FISHER 452; Linkage between fidget and agouti, CARTER and GRUNEBERG 270; Gene order in fifth linkage group, BORGER 160, CARTER and PHILLIPS 271, 272, DICKIE and WOOLLEY 390, DUNN and GLUECKSOHN-SCHOENHEIMER 401, FULLER and others 491, GARBER and HOUTH 498; J. W. B. KING 802, KOBOZIEFF and others 815, 817, 818, McDOWELL 911, MAKINO 923, MORGAN 983, M. E. WALLACE 1436.

Genetics : Studies of Other than *Mus*.—Genetics in *Oryctolagus* dom., VENGE 1403; Genetics of hair colour in

Oryctolagus, DANNEEL 352; Genetical variation in epiphyseal growth in rabbits, SAWIN and DIETZ 1203; Genetic variations in sternum in rabbit, PECK and SAWIN 1073; Incomplete twinning in rabbit, COCK 304; Hair direction genetics in *Cavia*, S. WRIGHT 1515; Pigment spread in *Cavia*, BILLINGHAM and MEDAWAR 148; Heterochromia in *Peromyscus*, HUESTIS and WILLOUGHBY 719; Genetics of *Vulpes*, colour phases, CALHOUN 253; Inheritance of coat colour in dogs, WINGE 1497; Inheritance of whorls in dogs, PULLIG 1121; Problem of tailless cats, SCHWANGART 1253; Genetics of Siamese cats, MOUTSCHEN 990; Gene frequencies of London cats, SEARLE 1258; Genetics of teratology in *Sus* dom., DABCZEWSKI 339; New sublethal factor in sheep, HANCOCK 597; Twinning in cattle, HANCOCK 596; Monozygous cattle twins, ROBERTSON 1165; Polled cattle breeding, HAMMOND 594; Cattle genetics, BAKER and others 86, JOHNSON and others 758, KIDWELL and GUILBERT 801.

ECOLOGY AND HABITS

General.—Game management textbook, BYRON 248; Relation of moon phases to deer use of salt lick, BUSS and HARBERT 242; *Rattus* and *Mus* ecology in a Kansas city, O. M. KING 804; Track making by domestic animals, BATES 112; Introduced mammals in New Zealand, WODZICKI 1504.

Habits of Special Forms.—*Castor* in New York, TEVIS 1352; Ecology and speciation in *Peromyscus*, BLAIR 150; Three species of *Peromyscus*, McCABE and BLANCHARD 905; *Antilocapra* in Texas, BUECHNER 213; *Odocoileus* in California, CRONEMILLER and BARTHOLOMEW 327.

Food Habits and Predation.—Food range of Microchiroptera, EISENTRAUT 422; Blood-sucking in *Desmodus*, MANN 926; Carnivorous habits in *Eptesicus*, KRUTZSCH 838; Fruit-bat feeding on flowers, BERWICK 142; Bats as food of bat falcon, BEEBE 125; Hedgehogs storing worms, W. P. HUDSON 717; Rat suspected of storing worms, HASSELLS-YATES 627, JOHNSTONE 760, PICKFORD 1093; Rats

storing food, etc., KAYE 784; Cannibalism in white rats, LAFITTE 849; *Citellus* eating fish eggs, OLSON 1039; Grey squirrel killing young birds, DALTON 346; Muskrats eating mussels, RIEDEL 1154; Cannibalism in *Microtus*, VOGEL 1421; Crows feeding on young *Sylvilagus*, KIRKPATRICK 805; *Canis lupus*, attacks on man, BURR 221; *Ursus americanus* preying on man, WHITLOCK 1484; *Martes americana* food habits, COWAN and MACKAY 322; Mink eating bats, GOODPASTER and HOFFMEISTER 547; Food choice of Otters, BRYANT 209, G. A. MACKENZIE 917; *Taxidea* fishing, DRAKE and PRESNALL 398; Mongoose predation on frogs, BENCE-JONES 135; Cat killing stoat, DATHE 356; Cats eating weasels, GAUGHRAN 508; Food of Alaska fur seal, V. B. SCHEFFER 1222, 1223; *Antilocapra* in California, FERREL and LEACH 445; Plant foods of *Odocoileus* in California, FERREL and LEACH 444; *Alces* in Brit. Columbia, COWAN and others 321; Grazing habits of cattle in tropics, BARISSON VILLARES 102.

Aquatic Habits.—Aquatic ability of *Lepus americanus*, G. S. HUNT 723; Backward swimming in *Onatra*, A. W. PETERSON 1081; Swimming ability of *Zapus*, J. K. JONES 767; *Erethizon* swimming for food, DEAN 373.

Fossorial Habits.—Formation of mole hills and runs, M. BURTON 232.

Breeding Habits.—Stoat breeding in bird's nest, NEWMAN 1007; Habits of Red Deer during and after rut, R. PERRY 1078.

Miscellaneous Habits.—Nocturnal habits of animals, E. NEAL 998; Common Shrew carrying young attached to teats, MACINTYRE 916; Cetacea in captivity, MERTENS 954; Coyote as seed distributor, JAEGER 744; Barking in foxes, MERLEN 953; Defence instinct in ungulates, JOBAERT 755; Drumming of the Mouse-deer, KEMPE 796; Locked horns in two kudus, GLYNN-BAKER 540.

Associations.—List of animals found in the burrows of beaver, BARABASH-NIKIFOROV 97; Rodents found in the burrow of Desmans in Russia, BARABASH-NIKIFOROV 93; Association of raccoon and rat, CALLERY 255; Cat-

Fox association, F. H. SCHULTZ 1252; Badger-coyote hunting "partnership," CAHALANE 250.

Psychology.—Dominance patterns in mammals, COLLIAS 310; Wild animals in captivity, HEDIGER 643; Animal behaviour in captivity, HINDLE 682; Aspects of animal behaviour, E. P. WALKER 1431; Mammalian reactions to eclipses, ZINNER 1542; Training a chimpanzee, BIERENS de HAAN 145; Learning ability of young chimpanzee, SCHNEIDER 1239; Brown rat intelligence, STEINIGER 1300; Dominance in *Mus*, ROTH 1175; Behaviour patterns in dogs and wolves, J. P. SCOTT 1255; Social behaviour tests of dogs, SCOTT and MARSTON 1256; Social behaviour tests of dogs, VOGEL and others 1422; Can dogs distinguish pictures? HELLER 651; Defecation behaviour of dogs, ROSS 1174; Behaviour studies of *Vulpes* in captivity, SEITZ 1259; Play habits of badgers, NEAL 999; *Lynx* behaviour in captivity, LINDEMANN 389; Elephant intelligence, GEE 511; Behaviour patterns in British cattle, BROWNLEE 205, in Asiatic buffalo, MACGREGOR 912, in young calves, D. M. WALKER 1430; Mountain sheep aggression to deer at food, HUNTER and KINGHORN 724.

Migration and Homing.—Orientation in mice, NEUHAUS 1006; Bat ringing results, ABEL 29; Bat movements in Devon, HOOPER and others 706; Migration of *Lasiurus*, CARTER 273; Homing in marked fur-seals, V. B. SCHEFFER 1221; Game migration in Sudan, A. B. ANDERSON 52, ZAPHIRO 1537.

Home Range and Territory.—Environment of bats, EISENTRAUT 420; Territorial marking by mammals, HEDIGER 642; Home range in *Microtus*, comparative determination methods, HAYNE 636; No timber wolf runways? DE VOS 388; African elephant distribution relation to geology, HYDE 730.

Population Studies.—Game cycles, GRANGE 557; Fluctuations in Canadian Arctic, CHITTY 292; Population cycles in Arctic mammals, KALELA 777; Hypothesis of adreno-pituitary exhaustion in rodent cycles, CHRISTIAN 298; Small mammal population of isolated prairie grove, G. C. SANDERSON 1198;

Island population study, MANVILLE 930; Census methods in Africa, JOBAERT 754; Origin and spread of mammals in N.E. Polder, Holland, DAMMERMAN 348; Small mammals in Czechoslovakia, TURCEK 1382; Population study of small mammals Poland, KOWALSKI 830; Fluctuations in Illinois, C. O. MOHR 962; Soil temperature influence on *Talpa* populations, LIKHACHEV 886; Composition of Texas *Tadarida* colony, CAGLE 249; *Lepus americanus* cycles, 1946-48 report, CHITTY 291; Variation in laboratory-bred stocks of *Peromyscus*, HAYNE 637; Population cycle in *Neotoma*, NEGUS 1001; Population study of *Onychomys* in Manitoba, McLEOD 920; *Microtus* cycle in Slovakia, TURCEK 1383; Home range in *Mus musculus*, YOUNG and others 1527; Causes of rat population variation, D. E. DAVIS 364; Rat population of New York, D. E. DAVIS 363; Rat population of Baltimore, DAVIS and FALES 365; Controlled population study of *Rattus*, CALHOUN 254; Relative census method for *Rattus rattus*, CZYZEWSKI 338; *Rattus rattus* in Florida, WORTH 1509.

Conservation.—Game management textbook, BYRON 248; Conservation emergency action, COOLIDGE 314; Need for game sanctuaries, STEVENSON-HAMILTON 1305; Review of conservation problems, VRYDAGH 1425; Conservation of vanishing species, VOS 1424; Future of African fauna, WORTHINGTON 1511; Effect of antrycide on African game, CALDWELL 252; African National Parks, illustrated account, W. R. MOORE 977; Nairobi National Park, TOMKINSON 1371; Kruger National Park, JENNINGS 753; N. Rhodesian National Park, ANON. 22; Kafue National Park, ANON. 24; Wankie Game Reserve, photos., BROWNE 204; Parc National Albert, HOIER 693; Problems arising in East Africa, C. SCOTT 1254; Game control in Kenya, RITCHIE 1157; 1950 Tanganyika Game Bill, ANON. 23; Uganda Game Report, 1948, 1949 PITMAN 1097, 1098; Protection of arctic animals, KOSIBA 829; Reserves in Assam, GEE 514; Conservation problems in India, DHARMAKUMARSINHJI 389; *Enhydra* recovery, ANON. 26; Sable conservation in U.S.S.R., BELISHCHEV 132; Census of lions of India,

WYNTERBLYTH 1518, 1519; Indian lion, WINTER-BLYTH and DHARMAKUMARSINHJI 1520; Present status of marine mammals, BERTRAM 140; Exploitation of *Odobenus*, MATHESON 939; Return of *Mirounga angustirostris*, BARTHOLOMEW 106; *Arctocephalus townsendi* survival on San Nicolas Isl., California, BARTHOLOMEW 107; Criticism of elephant-catching in Garamba National Park, Belgian Congo, HEDIGER 646; Status of Addo Bush elephants, ARCHIBALD 62; *Ceratotherium simum* in Natal, present status, KLUGE 814, increase in Uganda, p. 26, PITMAN 1098; Indian Rhinoceros, GEE 518; Indian rhinoceros in Assam, recent survey, S. ALI 44; Mountain zebra status, BIGALKE 146; Mountain zebra proposed reserve in Outeniqua Mts., S. Africa, MIDDLEMISS 953; Hippos in Parc National Albert, HOIER 692; Deer parks in Britain, WHITEHEAD 1469; A suggested close season for deer, JOHNSTONE 763, WHITEHEAD 1479; Red deer conservation in Lake District, MOOREHOUSE 979; Need for conservation of Roe deer in British Isles, RUFFLE 1179; Royal Danish Deer Park in Klampenborg, BENZON 137; *Capra ibex* conservation in Italy, WHITEHEAD 1480; History of present stocks of European bison, aims of restitution, ZABINSKI 1533; *Bison bonasus* conservation in Poland, BEDFORD 120, BURR 222; Bison in Wood Buffalo Park, FULLER 492; Status of Cadzow white cattle, MOORHOUSE 930; Reduction in number of Chillingham White Cattle, PEATFIELD 1072.

Extirpation.—Review of extinct and vanishing mammals, WOJTUSIAK 1505; Extinct or vanishing European mammals, GAMS 497; Extinct mammals of France, THEVENIN 1364; *Capra lusitanica* history in Portugal, BAETA-NEVES 82; Eld's deer threatened extermination in Siam, SANBORN and WATKINS 1195; Threats to African game, FORBES 468; Extirpation of big game in Belgian Congo, JOBAERT 756; Cape lion, ANON. 25; Reduced status of *Diceros bicornis* in Ubungu-Shari, ANNA 53; *Bubalis caama* reduction in Natal, HANDLEY 593; Steller's Sea-cow, skin relic, E. MOHR 966.

Naturalization.—Additions to British mammal list, FITTER 455; History of introductions to New Zealand, WODZICKI 1504; Tooth changes in St. Kitt's stocks of *Cercopithecus*, ASHTON and ZUCKERMAN 69; *Lepus europaeus* introduction to Ontario, ALLIN 49; *Sciurus carolinensis* in S. Africa, D. H. S. DAVIS 367; Note on introduction of grey squirrel to England, FRENCH 481; *Ondatra* introduction and spread in Europe, KLEMM 811, at Havre, MAURY 944; Nutria in Louisiana, ATWOOD 73; *Glis glis* history and status in England, map, CARRINGTON 269; *Nyctereutes* in Scandinavia, E. SUOMALAINEN 1325, 1326; Re-introduction of *Ursus* to Bialowieza Forest, Poland, KARPINSKI 780; Introduction of camels to N. America, R. B. GREEN 561; Introduced deer in Britain, WHITEHEAD 1476; Possible introduction of *Rangifer* to Scotland, PRAG 1113; Reindeer introduction to N. America results, E. ROBERTS 1160; Introduced reindeer on Pribilofs, 1947, THOMPSON 1367; Goat horn development on Juan Fernandez, KRIEG 834.

Domestication.—Problems of domestication origins, HERRE 664, 665; Modifications of domestication, DECHAMBRE 376; Oldest European domestic animals, LA BAUME 847; Origin of Inca dog, FRIANT 488; Elephant catching methods Assam, GEE 513; Malay elephant training methods, KEMPE 795; Origins and domestication of horse, LUNDHOLM 898; Origin of *Sus* dom. in N. Europe, HERRE 663; Effect of domestication on *Sus* hypophysis, OBOUSSIER 1022; Influence of domestication on colour in *Rangifer*, HERRE 661; Earliest domestic cattle of Europe, HERRE 662; Origin of European cattle, KRUYTZER 839; History and characters of British cattle, E. J. ROBERTS 1161.

Parasitism.—Parasitology and evolution, CAMERON 259; Lethal trap for collecting ectoparasites, NICHOLSON and VETTER 1010; Rats, mites and scrub-typhus, GISPEN 535; Ectoparasites of Belgian mammals, COOREMAN 316; Ectoparasites of Ontario mammals, JUDD 772; External parasites of *Blarina*, JAMESON 748; Ectoparasites of *Urocyon*, EADS and MENZIES 404; Rat fleas in Uganda, HOPKINS 707;

Faunal list from *Neotoma* nests, WALTERS and ROTH 1437; Parasites of *Scalopus*, OLIVE 1036; Diatom infection of whales, OMURA 1042; Malaria parasites in *Epomophorus*, GARNHAM 504; Larval *Multiceps* in *Mus*, BALDELLI 89; *Spirocerca* first record in *Uncia*, KELLY and PENNER 792; *Sarcocystis* in *Alces*, KELLY et al 793; Helminths of *Okapia*, BAER 81; Helminthiasis in *Okapia*, SCHEIDEGGER 1226; Nematodes of *Okapia*, KREIS 833.

Economics: General.—Adaptations for domestic uses, DECHAMBRE 376; Game conservation, GRANGE 557; Economic importance of game in Germany, MÜLLER-USING 992; Value of game meat, S. Africa, 1949, SKEAD 1277; Asiatic buffalo as a suggested introduction to Belgian Congo, MARSBOOM 933; Deer as pest in New Zealand, N. JONES 768; Reindeer in Alaska, LANTIS 856; Reindeer value of introduction to N. America, E. ROBERTS 1160; Value of polled cattle, HAMMOND 594; Value of Mustelidae PETRIE 1085; Value of Otters to fisheries, WEST COUNTRY 1462; An Indian tiger-trap, DAVER 359; Musk supplies, MATHESON 938; Kangaroo rat effect on range vegetation, REYNOLDS 1151; Control of baboons, BEATON 115.

Economics: Fur and Wool.—Determination of sex and age ratios of fur animals, PETRIDES 1083; Breeding and naturalization of fur animals in U.S.S.R., LAVROV 862; Beaver management in Colorado, HENSLLEY and FOX 655; Muskrats in Louisiana, O'NEILL 1044; Farming Coypus in Denmark for fur and flesh, GRAAE 554; Alaska fur-seal report 1947, THOMPSON 1367; Importance of Pribilof fur seals, BERTRAM 139; *Vicugna* wool value, HODGE 686.

Economics: Rodent Control.—*Oryctolagus* control in Great Britain, IMRIE 733; Economic value of rabbits, F. D. SMITH 1284; Ecology and rodent control, OBOLENSKI 1021; Rodents harmful to grass in U.S.S.R., POLYAKOV 1102; Rodent control in forest protection, SVIRIDENKO 1330; Rodent pests in Polish agriculture, RUSZKOWSKI 1185; *Citellus* as forestry pest in U.S.S.R., STROGANOVA and UDIN 1324;

Mouse control in orchards, FINLAY 449; Rat control, PEREIRA 1077; Rat damage and control, M. BURTON 234; Rat damage to a bird sanctuary, STEINIGER 1298; Rat population of New York, D. E. DAVIS 363; Rat population of Baltimore, DAVIS and FALES 365; Control by poisoning of house rats in Rangoon, HARRISON and WOODVILLE 620; Muskrat control in post-war Germany, KLEMM 812; Humane trap tested, M. BURTON 226; Poison-scenting tests in rats, CZYZEWSKI 337; D.D.T. rodenticides, WANSON and CAMPHYN 1438; Rodenticide warfarin (W.A.R.F. 42) HAYES and GAINES 631; Rodenticide (W.A.R.F. 42,) SCHEIN 1229; Hydrocyanic acid gas fumigation for control of plague rats, J. I. ROBERTS 1164.

Economics : Whaling.—Whaling regulations, ANON. 9; World catch 1949 ANON 21; Whaling statistics 1947-48, 1948-49 (Antarctic) and 1948 (other areas), JAHN and others 745; International Whaling Commission report, ANON. 19; International Whaling Commission statistics 1949-50, PAULSEN 1067; Summer season 1948, ANON. 12; Summer season 1949 catch statistics, ANON. 20; Antarctic season 1948-49, ANON. 16; Antarctic pelagic results 1948-49, ANON. 13; Antarctic catch 1949-50, ANON. 14, 17, 18; 1949-50 pelagic Antarctic catch, ANON 8; Antarctic pelagic statistics 1949-50, ANON. 11; Blue whale stocks decline in Antarctic, ANON. 15; Southern whaling industry, WHEELER 1468; Norwegian coast catch statistics 1948, ANON. 10; Survey of Japanese whaling before 1946, TERRY 1348; Japanese antarctic catch 1947-48, NISHIWAKI and HAYASHI 1018; Whaling in Bonin Island region, 1948, MIZUE 960; Work of Discovery Committee, MACKINTOSH 919; *Megaptera* whaling at Gaboon, BUDKER 212; Age studies on blue whales, RUUD and JONSGARD 1187; Bacteriological study on whale meat keeping qualities, AKIBA and others 41; Whale oil analysis, PEDERSEN 1074; Insulin from whale pancreas, JORPES 771.

Methods and Technique.—Cage for recording daily activity rhythms, KARLSON 778; D.D.T. effect on mammals, LINDUSKA 890; D.D.T. as protection of bait from ants, R. H. COLEMAN 309;

Two new live traps for small rodents, AUBRY 74; New live-trap for small mammals, FITCH 454; Live trap for muskrats, SNEAD 1285; Lethal gas trap for small mammals, NICHOLSON and VETTER 1010; Mealworms for cleaning mammal skeletons, ALLEN and NEILL 48; Dermestid beetle skull cleaning advantages, E. T. HOOPER 701; Keeping shrews in captivity, O. P. PEARSON 1070; Marking pinnipeds, V. B. SCHEFFER 1221.

DISTRIBUTION AND FAUNAS

PALAEARCTIC REGION

General.—Eurasia, HINZE 683; Asia, DERANIYAGALA 386.

Europe : **General.**—GAMS 497, GUT 577, KLEMM 811, STEIN 1296, ZIMMERMANN 1540, 1541; Central Europe, ISSEL 741.

British Isles.—British Isles, BEDFORD 118, 124, FITTER 455, PIKE 1095, RUFFLE 1178, TEGNER 1343; Britain, WHITEHEAD 1476, 1483; London area, J. FISHER 451, FITTER 457; Regent's Park, London, KETTLEWELL 800; Hampstead, DUNN 400; Herts, CARRINGTON 269; Bucks, CARRINGTON 269; Essex, BURTSAL 241, WILLIS 1495; Bedfordshire, BEDFORD 119, LEWIS 884, R. PALMER 1061; Dorset, W. D. LANG 853; Wiltshire, CARNE 266; S.W. England, HEWETT 668; Somerset, JOHNSTONE 762; Devon, J. H. D. HOOPER 704, W. M. HOOPER 705, HOOPER and others 706, HURRELL 725, JOHNSTONE 762; Cornwall, JOHNSTONE 762; Gloucestershire, FITTER 456; Warwickshire, BARRYFORD 104, D. E. ALLEN 46; Cambridgeshire, G. CARE 268; Norfolk, LE STRANGE 880; Northants, D. J. D. STEVENSON 1303; Derbyshire, ANON. 2; Yorkshire, HAZELWOOD 638; Cheshire, RILEY 1155, J. E. ROBERTS 1163; Lakeland, CLAPHAM 303, MOORHOUSE 979; Westmorland, ANON. 1; South Wales, W. 1503; Skomer Id., PHILLIPS (in BUXTON and LOCKLEY) 247; Caernarvonshire, R. C. B. GARDNER 502, WHITEHEAD 1472; Scotland, R. PERRY 1078, WHITEHEAD 1470; Lanarkshire, MOORHOUSE 980; East Lothian, ANON. 7, D. STEVEN 1301; Ireland, B. C. E. 114, PREAGER 1112.

France.—ABADIE 28, CANTUEL 262, CHANUDET 287, DUCKERT 399, NIORT 1013, PETTER 1087, THEVENIN 1364, URBAIN 1388 ; S.W. France, ASTRE 72 ; W. France, NIORT 1012 ; Alsace, GOUN 552 ; Yonne, CAUBERE 279 ; Loire, NIORT 1014.

Spain.—BOLIN 157, F. WALLACE 1433 ; Gibraltar, C. HUNT 721, SIR C. RUSSELL 1184.

Portugal.—BAETA - NEVES 82 ; Madeira, SARMENTO 1201.

Italy.—BOLOGNARI 156 ; N. Italy, HOWELL 713, WHITEHEAD 1480, 1481, 1482.

Switzerland.—BLOCH 153, WYATT 1516, 1517.

Belgium.—COOREMAN 316.

Holland.—BOSCHMA 169, DAMMERMAN 348, HUSSON 726.

Germany.—FELTON 440, GOETHE 542, KLEMM 812, KOLB 826, MEYER 955, MOHR 964, MÜLLER-USING 992, OLOFF 1037, STEINIGER 1299, WEZEL 1464 ; W. Germany, ISSEL 740 ; N. Germany, RITTINGHAUS 1159 ; S. Germany, KAHMANN 775 ; Kiel, LUTTSCHWAGER 900 ; E. Prussia, GOTTLIEB 551 ; Bavarian Alps, KAHMANN and FRISCH 776 ; Württemberg, LOHRL 893.

Austria.—ABEL 29 ; Austrian Alps, KAHMANN and FRISCH 776.

Yugoslavia.—RUZHITCH - PETROV 1188.

Bulgaria.—CASPER 276.

Cyprus.—WATERER 1443.

Czechoslovakia.—EHIK 415, FERIANC 443, GRULICH 571, HANZAK and ROSICKY 601, KOMAREK 828, KRATOCHVIL and GRULICH 832, TURCEK 1382, 1383.

Denmark.—Danish islands, URSIN 1395.

Norway.—ANON. 10, OLBERG 1033.

Sweden.—NEANDER 1000 ; W. Sweden, HANSTROM 600 ; Jungfrun I., Sweden, CURRY-LINDAHL 336.

Finland.—BRANDER 182, KALELA 778, E. SUOMALAINEN 1325, 1326.

Poland.—DEHNEL 381, KARPINSKI 780, KOWALSKI 830, SIMM and SKURATOWICZ 1271.

U.S.S.R.—GROMOVA 568, LAVROV 862, OGNEV 1029, SVIRIDENKO 1331, TARASOV 1336 ; Ukraine, RESHETNIK 1146, SOKUR 1287 ; Kazakstan, SLUDSKI 1282 ; Black Sea, CASPERS 276 ; Turkmenia, HEPTNER and SHUKUROV 656, TZALKIN 1385 ; Mongolia, BANNIKOV 96 ; E. Mongolia, KUTCHERUK 846.

S.W. Asia.—S. Arabia, HAYMAN and HARRISON 634 ; Mesopotamia, DERANIYAGALA 386 ; Persia, DERANIYAGALA 386.

China.—DERANIYAGALA 386, PAOSHAN CHENG 1064.

Japan.—OMURA 1043, TERRY 1348.

ETHIOPIAN REGION

General.—Africa, CHALMERS 282, FORAN 467, HAYMAN 633, W. R. MOORE 977, OELCKERS 1027, STOTT 1318, T. G. W. 1351, WORTHINGTON 1511 ; African high mountains, JEANNEL 751.

North Africa.—Spanish Morocco, MORALES-AGACINO 981 ; Tunisia, HELDT 649.

North-East Africa.—Kharga Oasis, Egypt, WASSIF 1441 ; Jubaland, WARD and SORRELL 1439 ; Sudan, A. B. ANDERSON 52, DANIELL 349, ZAPHIRO 1537 ; West Sudan, P.Z. MACKENZIE 918 ; S. Sudan, A. B. ANDERSON 51 ; Imatong Mts., Sudan, JACKSON and OWEN 743.

East Africa.—GUGGISBERG 575, C. SCOTT 1254, STOCKLEY 1315 ; Kenya, COPLEY 317, FORAN 466, IONIDES 735, RITCHIE 1157, STOCKLEY 1314 ; Tanganyika, ANON. 23, BARTLETT 108, IONIDES 735.

Uganda.—HOPKINS 707, Pitman 1097, 1098 ; N.E. Uganda, J. M. WATSON 1445.

South-East Africa.—P.E. Africa, HAYMAN 632 ; Natal, HANDLEY 598, KLUGE 814 ; Zululand, SCHACK 1204.

Rhodesias.—N. Rhodesia, ANON. 22, 24, ANSELL 54, POLES 1100 ; S. Rhodesia, J. JAMES 746.

South Africa.—Transvaal, ELOFF 426 ; S. Africa, ASTLEY MABERLEY 71, BIGALKE 146, BIGALKE and others 147, BROOM 194, BROOM and ROBINSON

196, D. H. DAVIES 360, DAVISON 369, MIDDLEMISS 958, E. M. PALMER 1060, RAND 1129; Cape Province, ARCHIBALD 62.

Angola.—Angola, YEBES 1521; N.E. Angola, SANBORN 1194.

Belgian Congo.—Belgian Congo, MARSBOOM 933; Parc National Albert, Belgian Congo, FRECHKOP 478, HOIER 693.

French Congo and Cameroons.—French Equatorial Africa, FRASER 474; Ubangui-Shari, ANNA 53; Fr. Cameroons, AELLEN 38.

Nigeria.—British Cameroons, HAYMAN 632; Nigeria, ROSEVEAR 1173; Togoland, DORST 394.

West Africa.—W. Africa, BOUVEIGNES 178, COZENS 323; Lower Congo, BOUVEIGNES 177; Gaboon, BOURDELLE and PETTER 176, BUDKER 212; Sierra Leone, HAYMAN and JONES 635; Portuguese Guinea, FRADE and others 469; Dakar, FRASER 473; Rio de Oro, POSTEL 1109; Canary Is., E. MOHR 963.

Madagascar.—DECARY 374, DOUCET 395, HOOGSTRAAL 695; Mauritius, VINSON 1416.

ORIENTAL REGION

India, Ceylon.—R. W. BURTON 236, GEE 517, GILLAN 533, JAYARAM 750, MOSES 983; Kashmir, G. E. C. GREGORY 563; Sikkim, SCHAFER 1205; Nepal, SANBORN 1191; N.E. India, GEE 518; Kathiawar, WYNTER-BLYTH 1518, 1519, WINTER-BLYTH and DHARMAKUMARSINHJI 1520; Central India, F. L. ROBERTS 1162; S. India, DERANIYAGALA 386; Ceylon, PHILLIPS 1092; Cocos-Keeling Is., GIBSON-HILL 531, TATE 1337.

Assam, Burma.—Assam, GEE 513, 514, S. ALI 44; Manipur, ROONWAL 1170; Burma, BOSWELL 170, R. W. BURTON 237, HARRISON and WOODVILLE 620.

Siam, Indo-China.—Siam, SANBORN and WATKINS 1195; Indochina, CHOCHOD 293.

Malaya.—GIBSON-HILL 529, 530, J. L. HARRISON 613, 614, 615, J. L. HARRISON and LIM 617, HISLOP 685, KEMPE 796; Selangor, HARRISON and

TRAUB 618; Jarak Is., Malaya, AUDY 76, AUDY and HARRISON 77; Rhio Archipelago, JUNGE 774.

East Indies.—Java, DERANIYAGALA 386; Sunda Is., POHLE 1099; Sumba, WEGNER 1451; Borneo, DERANIYAGALA 386, GIBSON-HILL 528; N. Borneo, T. HARRISSON 621; Sarawak, GIBSON-HILL 532.

Philippines.—SANBORN 1193, WHARTON 1465, 1466, 1467.

AUSTRALASIAN REGION

Australasian Islands.—New Hebrides, SANBORN and NICHOLSON 1196; Solomon Is., SANBORN and NICHOLSON 1196; New Caledonia, SANBORN and NICHOLSON 1196.

Australia.—AUDAS 75, E. COLEMAN 307, FLEAY 458, 461, TROUGHTON 1378, 1379; Queensland, MORRISON-SCOTT and SAWYER 987; E. Australia, FLEAY 460; S. Australia, FLEAY 459; Victoria, BRAZENOR 185; W. Australia, GLAUERT 536, 537; Tasmania, SHARLAND 1266.

New Zealand.—N. JONES 768, WODZICKI 1504.

NEARCTIC REGION

General.—N. America, BLAIR 150, CHITTY 291, GOLDMAN 543, GRANGE 557, HALL and DALQUEST 589, HINZE 683; Rocky Mts., McHUGH 913.

Greenland.—DONOVAN 393, KOSIBA 829; W. Greenland, LESSE 879; N.W. Greenland, VIBE 1405.

Canada.—CALHOUN 253, CHITTY 292; Cape Breton, CAMERON 257; Montreal Island, PHILIPPE 1091; Quebec, CAMERON 256, CAMERON and ORKIN 258; Ontario, ELSEY 430; Manitoba, CRIDDLE 325, FULLER 492, McLEOD 920, R. L. PETERSON 1082, G. C. SANDERSON 1198; Alberta, H. V. GREEN 560, ROWAN 1177; Yukon, JUDD 773.

U.S.A.: General.—EDDY and HODSON 410, POLLACK 1101, ULMER 1387.

Eastern U.S.A.—New York, HAMILTON 593; Maine, GASHWILER 506; Pennsylvania, HAMILTON 593, RICHMOND and GRIMM 1152, RICHMOND and ROSLUND 1153; Maryland, COOPER 315, MANSUETI 928; Virginia, D. H.

JOHNSON 757, McATEE 904; W. Virginia, BARBOUR 100; Georgia, JENKINS and JOHNSTON 752, SCHANTZ and JENKINS 1210; N. Carolina, ADAMS 32; S. Carolina, R. H. COLEMAN 308, PENNEY 1076; Alabama, HAYNE 637; Florida, R. ALLEN 47, HAYNE 637, POURNELLE 1110, 1111, WORTH 1510.

Middle U.S.A.—Ohio, OLIVE 1035; Illinois, HOFFMEISTER 688, C. O. MOHR 962, WETZEL 1463; Michigan, MANVILLE 930, 931; Drummond Island, Michigan, MANVILLE 929; Wisconsin, BEER 127, SCHORGER 1244; Iowa, WISEMAN and HENDRICKSON 1500; Kentucky, BARBOUR 101; Louisiana, O'NEILL 1044; Grand Isle, Louisiana, BEHRE 128; Mississippi, MILLER and ROBERTSON 959; Oklahoma, ARVEY and GLASS 65.

Western U.S.A.—Texas, ANON. 27, BAKER 87, BUTCHNER 213, CAGLE 249, HERMANN 659; Kansas, COCKRUM and BAKER 305, O. M. KING 804, SCHANTZ 1208, 1209; N. Dakota, SCHANTZ 1207; Montana, CRABB and WATSON 324, NICHOLSON 1009, SCHANTZ 1206, P. L. WRIGHT 1513, WRIGHT and CONAWAY 1514; Wyoming, BAKER and HANKINS 88, NEGUS 1002; Arizona, HENSLEY and FOX 655, REYNOLDS 1151; Colorado, BEIDLEMAN 129, 130, GRUCHY 570, HENSLEY and FOX 655; Utah, M. C. GARDNER 501, R. HARDY 608, KELSON 794, PORTER 1106, ROBINETTE and GASHWILER 1166; California, CHATTIN 289, CRONEMILLER and BARTHOLOMEW 327, FERREL and LEACH 445, INGLES 734, F. L. JONES 764, 765, McCABE and BLANCHARD 905, ORR 1045, 1046, 1047, 1048, SCHEFFER and WILKE 1225, SEVERAID 1263, STAGER 1293; Gulf of California, MAYER 946; San Nicolas Island, California, BARTHOLOMEW 107; Oregon, CHATTIN 289; Washington, CRISLER 326, M. C. GARDNER 500, V. B. SCHEFFER 1216, 1218, TYSON 1384, YOCOM 1523; N.W. Coast, V. B. SCHEFFER 1224; W. Coast N. America, V. B. SCHEFFER 1219.

Alaska and Hawaii.—Alaska, ANON 26, IMLER and SARBER 732, LANTIS 856, RAUSCH 1132, SCOTT and others 1257, N. A. WEBER 1449; N. Alaska, RAUSCH 1133; Amchitka Island, ANON 5; Pribilofs, BERTRAM 139,

THOMPSON 1367; Hawaii, BALDWIN 90, SPENCER and DAVIS 1290.

Mexico.—Mexico, DALQUEST 344, DALQUEST and others 345, HALL and DALQUEST 587, HATT and VILLA 628, E. T. HOOPER 703, VILLA 1410; Michoacan, HALL and VILLA 590; Chiapas, E. T. HOOPER 702; Pescadora, Gulf of Mexico, L. W. WALKER 1432; Baja California, Mexico, BARTHOLOMEW 106.

NEOTROPICAL REGION

C. America and West Indies.—C. and S. America, SIMPSON 1272; Panama, SETZER 1261; Honduras, A. F. CARR 267; St. Kitts, ASHTON and ZUCKERMAN 69.

S. America.—DELLA SERRA 383, GILMORE 534, HERSHKOVITZ 666, KRUMBIEGEL 836, 837, YEPES 1522; Venezuela, BEEBE 125; Brazil, KUMM and LAEMMERT 845, MOOJEN 976, Jurua R., VIEIRA 1407; S. Paulo, MOOJEN 975, VIEIRA 1408; Colombia, MAC-ALLISTER 903; N. Colombia, HERSHKOVITZ 666; Peru, FRIANT 488, HODGE 686, SANBORN 1192; Bolivia, SANBORN 1192; Paraguay, KRUMBIEGEL 836; Uruguay, ACOSTA Y LARA 31; Chile, HOUSSE 711, MANN 927; Juan Fernandez, KRIEG 834; Tierra del Fuego, LOPEZ 895; Falklands, FRASER 475; South Orkneys, LIVERSIDGE 891.

OCEANS AND SEAS

Arctic, MATHESON 939; **Indian Ocean,** GIBSON-HILL 526; **Antarctic,** ANON. 8, 11, 15, 16, 17, 18, MACKINTOSH 919, JAHN and others 745, NISHIWAKI and HAYASHI 1018, OTTESTAD 1054, RUUD and JONSGARD 1187; **Pacific,** KIRPITCHNIKOV 806, MIZUE 960; N. Pacific, V. B. SCHEFFER 1215; Campbell Island, South Pacific, LANGLEY 855.

GEOLOGICAL (FOSSIL FAUNAS)

General Problems.—Fluorine test for age of *Eoanthropus*, OAKLEY and HOSKINS 1019; Fluorine test of Miocene horse bones, OLSEN 1038.

Cretaceous: **Jurassic.**—Cretaceous, Texas, ZANGERL and DENISON 1534;

Jurassic, Germany, KUHNE 842, Glamorgan, KUHNE 843.

Tertiary : Old World.—Spain, CRUSAFONT PAIRO 331, 332; Germany, BRAUER 183, LEHMANN 872, WEIGELT 1455; Austria, PAPP and THENIUS 1065, THENIUS 1354, 1357, 1360; Serbia, LASKAREV 858, 859; Mediterranean, FURON 493; U.S.S.R., BOUSSIAK 165; S. Transcaucasus, LEONTZEV 878; N. China, CHUNG 300; Africa, ARKELL 63; Morocco, ENNOUCHI 433; S. Africa, BROOM 191, BROOM and ROBINSON 199, SAUTER 1202, THERRAP 1368.

Tertiary : New World.—Saskatchewan, L. S. RUSSELL 1183; C. and S. America, SIMPSON 1272; S. America, KRAGLIEVICH 831; Cuba, AGUAYO 39; Brazil, COUTO 320.

Eocene.—E. Asia, TAKAI 1334; Japan, TAKAI 1334; Brazil, COUTO 319, PRICE and COUTO 1118.

Oligocene.—S. France, MORET 982; Germany, DEHM 379, TEIKE and TOBIEN 1346; S.W. Germany, TOBIEN 1370; Italy, LEONARDI 877; S. Dakota, J. R. MACDONALD 909.

Miocene : Old World.—Spain, CRUSAFONT PAIRO 330, 333, CRUSAFONT PAIRO and VILLALTA COMELLA 335, FRIANT 489, SCHAUB 1211, VILLALTA and CRUSAFONT PAIRO 1412, VILLALTA COMELLA 1413; Italy, FABIANI 435; Bavaria, DEHM 378, 380; Austria, THENIUS 1358, 1359, 1362; Czechoslovakia, ZAPFE 1535, 1536; Serbia, LASKAREV 859; Azerbaijan, U.S.S.R., BURTSCHAK-ABRAMOVITCH 223; Moldavia, U.S.S.R., EBERZIN 407; Baluchistan, EAMES 406; E. Africa, LE GROS CLARK and LEAKEY 871; Kenya, LEAKEY 863, 864; Transvaal, GEORGE 519.

Miocene : New World.—U.S.A. SCHULTZ and FALKENBACH 1251; Maryland, GAZIN and COLLINS 510; Texas, HIBBARD and WILSON 672; Montana, HIBBARD and KEENMON 670.

Pliocene : Old World.—Spain, CRUSAFONT PAIRO 329, 334, VILLALTA 1411; France, SCHAUB 1211, 1212; VIRET 1417; Holland, KOENIGSWALD 824; Germany, BARTZ 109; W. Germany, WEHRLI 1452; Samos, Greece,

THENIUS 1361; Turkey, THENIUS 1356; Odessa, HAVESSON 629; Kansu, C. C. YOUNG 1526; YOUNG and LIU 1526A; Shansi, TEILHARD DE CHARDIN and TRASSAERT 1347, YOUNG and LIU 1526A; Tunisia, ARAMBOURG and ARNOULD 59.

Pliocene : New World.—Kansas, HIBBARD 669; Arizona, REED 1141; Nevada, J. R. MACDONALD 908; Mexico, LANCE 850, STOCK 1313; Argentina, REIG 1142.

Pleistocene : Old World.—Europe. LA BAUME 847, THIENEMANN 1365; Kent, SCHREUDER 1247, 1248; Piltown, Sussex, OAKLEY and HOSKINS 1019; Yorkshire, FRASER and KING 476; Scotland, RITCHIE 1158; France, BAYOL and PAULUS 113, DENIZOT 385, FONTON 465, FRIANT 485, THEVENIN 1364; Spain, PAN 1062; Barcelona, VILLALTA and CRUSAFONT PAIRO 1415; Balearic Is., VILLALTA COMELLA and CRUSAFONT PAIRO 1414; Italy, VENZO 1404; Sicily, PATA 1066; Switzerland, GERBER 521; Holland, ERDBERINK 434, HOOIJER 697, PANNEKOEK 1063, SCHREUDER 1246, TESCH 1349, 1350; Germany, GROSS 569, KRUMBECK 835, WAGNER 1427; N. Germany, HERRE 662, 663; W. Germany, BRUNNER 208; Wurtemberg, STAESCHE 1292; Sweden, SANDEGREN 1197; Poland, KULCZYCKI 844; Jugoslavia, CIRIC 302; N. Russia, BIBIKOVA 144; Mediterranean, FURON 493; Asia, HOOIJER 699; India, SCHAUB 823; Celebes, HOOIJER 700; S.W. Celebes, HOOIJER 698; Morocco, ENNOUCHI 432; Cyrenaica, BATE 111; Khartoum, BATE 110; E. Africa, DIETRICH 392; S. Africa, BROOM and ROBINSON 197, COOKE 313, STRAUS 1323; Transvaal, BROOM and ROBINSON 201.

Pleistocene : New World.—E. Canada, LAVERDIERE 861; Nebraska, FRANKFORTER 470; Florida, GAZIN 509; Texas, STOVALL and MCANULTY 1321; Mexico, HIBBARD and VILLA 671, MALDONADO-KOERDELL 924, STOCK 1312; Cuba, AGUAYO 39; Martinique, FRIANT 484; S. America, HOFFSTETTER 690, 691; Venezuela, SCHAUB 1213; Ecuador, ARAUZ 60, HOFFSTETTER 689, 691, PROANO and SAMANIEGO 1119.

III.—SYSTEMATIC INDEX

DIDELPHIDAE

In the arrangement of the Orders of the Mammalia, Simpson's classification and terminology in his "The Principles of Classification and a Classification of Mammalia," 1945, have been adopted.

†*Mucrotherium* Huene a Tritylodont, probably *Oligokyphus*, KUHNE 842.

†*Uniserium* Huene a Tritylodont, probably *Oligokyphus*, KUHNE 842.

ORDER MONOTREMATA

Development and morphology of egg-tooth and caruncle in monotremes, HILL and DE BEER 675.

Dental characters of monotremes, BRAZENOR 185.

Ornithorhynchus anatinus further notes on habits in captivity, hibernation, gestation, incubation, lactation, FLEAY 461; new light on reproduction in captivity, FLEAY 462; endocrine extract effects on blood pressure, FEAKES and others 437.

†ORDER TRICONODONTA

Triconodont finds in Early Cretaceous of Texas, ZANGERL and DENISON 1534.

†*Morganucodon watsoni* new views on tooth structure, KUHNE 843.

†ORDER SYMMETRODONTA

A symmetrodont tooth from the Glamorgan Jurassic, KUHNE 843.

ORDER MARSUPIALIA

Egg-tooth in marsupials, HILL and DE BEER 675.

Dental characters of Australian marsupials, BRAZENOR 185.

History of W. Australian marsupials, GLAUERT 536.

Hair tracts in marsupials, BOARDMAN 154, 155.

Introduced marsupials in New Zealand, WODZICKI 1504.

Marsupials of Sao Paulo, VIEIRA 1408.

Didelphis review of S. American forms, KRUMBIEGEL 836; superfoetation? HARTMAN 624; "death-feigning," HARTMAN 625; *D. virginiana* status in Colorado, GRUCHY 570; ecology in Iowa, WISEMAN and HENDRICKSON 1500.

Lutreolina revision, KRUMBIEGEL 836.

Marmosa review of S. American groups, KRUMBIEGEL 836.

Metachirus revision, KRUMBIEGEL 836.

Monodelphis tricolor paulensis subsp. nov. Pirituba, City of Sao Paulo, Brazil, p. 359, VIEIRA 1408.

DASYURIDAE

Antechinus flavipes habits and breeding in captivity, FLEAY 458.

Phascogale tapoatafa habits and breeding in captivity, photos, FLEAY 459.

Sarcophilus ursinus habits and habitat SHARLAND 1266.

Thylacinus cynocephalus habits and habitat SHARLAND 1266.

PERAMELIDAE

Bandicoots, popular account, TROUGHTON 1379.

Isodon obesulus habits in captivity, GLAUERT 537.

PHALANGERIDAE

Cercartetus concinnus habits in captivity, GLAUERT 537.

Phalanger ursinus, *P. celebensis* taxonomy and size changes in Celebes, pp. 13, 18, HOOLJER 698.

†*Phalanger celebensis callenfelsi* subsp. nov. subfossil, Bonthain, S. Celebes, p. 28, HOOLJER 698

Tarsipes spenserae habits in captivity, GLAUERT 537.

Trichosurus caninus status and habits, FLEAY 460.

MACROPODIDAE

Relationships of Potoroidae to Macropodidae, J. PEARSON 1069.

Hypsiprymnodon moschatus primitive structure of female urogenital system. J. PEARSON 1068

Macropus kanguru identified as Captain Cook's kangaroo, photo-lectotype designated, MORRISON-SCOTT and SAWYER 987; *M. rufus* notes on birth in captivity, DATHE 357.

ORDER INSECTIVORA

Notes on Malayan insectivores, with key, J. L. HARRISON 613.

Insectivores of Selangor, HARRISON and TRAUB 618.

Insectivora of Maryland, COOPER 315.

Susceptibility of some insectivores to tularemia, OLSUFYEV and DUNAeva 1040.

Oligocene Insectivora from S.W. Germany, TOBIEN 1370.

POTAMOGALIDAE

Potamogale velox distribution records, habits, characters, map, COZENS 323.

CHRYSOCHLORIDAE

Chlorotalpa shortridgei sp. nov. Sutherland, Cape Province, S. Africa, p. 238, BROOM 194.

Chrysochloris asiatica taylori Lamberts Bay, p. 236, *C. a. visserae* Van Puttens Vlei, p. 237, subsp. nov., *C. visagei* sp. nov. Gouna, 54 m. E. of Calvinia, p. 238, all Cape Province, S. Africa, BROOM 194.

Eremitalpa granti cana subsp. nov. Lamberts Bay, Cape Province, S. Africa, p. 240, BROOM 194

ERINACEIDAE

Erinaceidae phylogeny based on tooth characters, FRIANT 486.

Echinorex gymnurus photo in captivity, J. L. HARRISON 615.

Erinaceus europaeus breeding biology STIEVE 1308; physiology of hibernation, P. SUOMALAINEN 1328; intro-

duction and status in New Zealand, WODZICKI 1504.

†*Galerix exilis* Miocene, Austria, descr. figs, p. 672, THENIUS 1357.

†*Lantanotherium longirostre* sp. nov. Miocene, Leoben, Steiermark, Austria, p. 676, THENIUS 1357.

†*Palerinaceus vireti* Crusafont Pairo and Villalta is an *Erinaceus*, FRIANT 489.

†*Plesiosorex styriacus* Miocene, Austria, descr. figs, p. 684, THENIUS 1357.

MACROSCOLIDIDAE

Elephantulus myurus jamesoni study of placentation, VAN DER HORST 1398; *E. rozeti* embryonic development, LANGE 854; *E. rufescens* as malaria vector, habits and capture in E. Africa, HOOGSTRAAL 696.

SORICIDAE

Tooth colour unreliable in shrews, proposed union of Crocidurinae with Soricinae, p. 129, HIBBARD 669.

Suggested common names for shrews, MEHL 948.

Shrew toxicity, legend and fact, M. BURTON 231.

Submaxillary glands of shrews, comparative toxicity, O. P. PEARSON 1071.

Keeping shrews in captivity, O. P. PEARSON 1070.

Blarina food habits in captivity, CHRISTIAN 299; *B. brevicauda* carnivorous habits, poison gland, McHUGH 914; external parasites, JAMESON 748.

Crocidura russula breeding habits, NIETHAMMER 1011; *C. suaveolens* first record Czechoslovakia, HANZAK and ROSICKY 601.

†*Crocidura leucodon* subsp. nov. Pleistocene, Barcelona, p. 276, VILLALTA and CRUSAFONT PAIRO 1415.

Cryptotis zeteki Cerro Punta, 6,500 ft. p. 299, *C. andersi* Cylindro, p. 300, both Chiriqui Province, Panama, spp. nov., SETZER 1261.

Megasorex gen. nov. for type species *Notiosorex gigas* Merriam, HIBBARD, Contr. Mus. Paleont Univ. Michigan 8 1950, p. 129.

Neomys review of E. European forms, morphology, taxonomy, breeding biology, evolution, DEHNEL 381; *N. fodiens* remarkable incisive abnormality, CANTUEL and DIDIER 264.

†*Paracryptotis* gen. nov. for type species *P. rex* sp. nov. Pliocene, Fox Canyon, XI Ranch, Meade County, Kansas, HIBBARD Contr. Mus. Paleont. Univ. Michigan 8 1950, p. 121.

†*Notiosorex jacksoni* sp. nov. Pliocene, Fox Canyon, XI Ranch, Meade County, Kansas, p. 129, HIBBARD 669.

Sorex notes on comparative measurements, skull and dental characters of French species, CANTUEL 262; *S. araneus* method of transporting young, MACINTYRE 916; *S. a. bohemicus* Stepanek a synonym of *S. a. araneus*, KRATOCHVIL and GRULICH 832; *S. c. cinereus* altitudinal status Colorado, BEIDLEMAN 129, 130; *S. dispar* ecology and distribution in Pennsylvania, RICHMOND and GRIMM 1152.

Suncus etruscus measurements of a pregnant female, distribution in France, NIORT 1013; occurrence in Charente, France, PETTER 1087; *S. murinus* taxonomy in Indonesia, p. 31, HOOLJER 698.

TALPIDAE

Moles and their runs, photos and diagram, M. BURTON 232.

Desmana moschata rodents associated with its burrows, BARABASH-NIKIFOROV 98.

Parascalops breweri range extension Ohio, OLIVE 1035.

Scalopus aquaticus feeding habits in captivity, CHRISTIAN 299.

Talpa europaea size variation and subspeciation, systematic review, STEIN 1296; biology, STEIN 1297; surface activity, HORNUNG 709; effect of soil freezing on populations in U.S.S.R., LIKHACHEV 886; *T. e. caeca* occurrence in Czechoslovakia, HANZAK and ROSICKY 601; *T. sp. nov.* aff. *europaea* from Pleistocene, Barcelona, p. 276, VILLALTA and CRUSAFONT PAIRO 1415.

†“*Talpa*” *tomeringensis* sp. nov. Oligocene, Tomerding (Ulmer Alb.), Germany, p. 164, TOBIEN 1370.

ORDER DERMOPTERA

Cynocephalus with young, habits, E. C. HUNT 722; *C. volans* habits, care in captivity, WHARTON 1466.

ORDER CHIROPTERA

Short review of bat physiology and ecology, ANCIAUX DE FAVEAUX 50.

Bat distribution as affected by temperature and climate, EISENTRAU 420.

Bats in legend and fact, LEUTSCHER 882.

Orientation in bats, MOHRES 969.

Orientation and homing experiments. MOHRES and OETTINGEN-SPIELBERG 971.

Bats photographed in captivity, ANON. 6.

Bat flight photos, CASSELL 277.

Rarity of albinism in bats, SETZER 1260.

Tensor tympani muscle in bats WASSIF 1442.

Reproduction in some Indian bats, IYER 742.

Parturition in two Indian bats, RAMAKRISHNA 1128.

Bats in N.E. Angola, SANBORN 1194.

SUBORDER MEGACHIROPTERA

PTEROPODIDAE

Cynopterus brachyotis feeding on flowers, photo, BERWICK 142.

Epomophorus reii sp. nov. Rei Bouba R. Rei (trib. of Bénoué), Garoua, Fr. Cameroons, p. 559, AELLEN 38.

Micropteropus grandis sp. nov. Dundo. Lunda, N.E. Angola, p. 55, SANBORN 1194.

Notopteris macdonaldi neocaledonica taxonomic status, habits, SANBORN and NICHOLSON 1196.

Pteropus leucotis sp. nov. Singay, Busuanga Island, Calamianes Group, p. 189, *P. l. obscurus* subsp. nov. Santiago, Iwahig, Palawan Island, p.

190, both Philippines, SANBORN 1193; *P. ornatus* habits, numbers, breeding data on New Caledonia, *P. geddiei*, *P. anetianus aorensis*, *P. macmillani*, *P. rayneri*, *P. howensis* taxonomic notes, habits, SANBORN and NICHOLSON 1196.

SUBORDER MICROCHIROPTERA

Food habits and adaptations in Microchiroptera, EISENTRAUT 422.

Function of nose-leaves, MÖHRES 970.

Austrian bat ringing results, ABEL 29.

Bat ringing in Germany, LOHEL 893.

Cave bats in Devon, ringing results, HOOPER and others 706.

Bats breeding in winter quarters, EISENTRAUT 421.

Systematic list of bats of Uruguay, ACOSTA Y LARA 31.

Venezuelan bats as prey of falcon, BEEBE 125.

EMBALLONURIDAE

Centronycteris maximiliani centralis first record from Mexico, with key to skulls of N. American Emballonurinae, DALQUEST and others 345.

Diclidurus virgo first Mexican record, VILLA 1410.

NYCTERIDAE

Nycteris arge, *N. nana nana*, *N. macrotis* first Angolan records, p. 57, SANBORN 1194.

MEGADERMATIDAE

Lyroderma lyra placentation, GOPALA-KRISHNA 550.

RHINOLOPHIDAE

Rhinolophus acrotis first Arabian records, p. 417, HAYMAN and HARRISON 634; *R. euryale* occurrence in Yonne, CAUBERE 279, *R. ferrum-equinum* pre-molar reduction sequence, FRIANT 482; hibernatory habits in Devon, W. M. HOOPER 705; photos, J. H. D. HOOPER 704; *R. hipposideros* distribution and habits W. Germany, ISSEL 740; ecology in Germany, KOLB 826; photos, J. H. D. HOOPER 704; analysis of variability, *R. moravicus* Kostron a synonym,

GRULICH 571; *R. rouxii* embryonic noseleaf and skull structure, SITT 1276.

†*Rhinolophus delphinensis* Miocene Czechoslovakia, p. 53, *R. similis* sp. nov. Miocene, Neudorf, Czechoslovakia, p. 55, ZAPFE 1535.

HIPPOSIDERIDAE

Asellia tridens range extension in Egypt, skeletal characters, WASSIF 1441.

Aselliscus tricuspidatus novehebridensis subsp. nov. Espiritu Santo Island, New Hebrides, p. 331, SANBORN and NICHOLSON 1196.

Hipposideros caffer centralis first Angolan record, p. 58, SANBORN 1194.

†*Paraphyllophora? lugdunensis* Miocene, Czechoslovakia, p. 57, ZAPFE 1535.

DESMODONTIDAE

Desmodus technique of blood-sucking (not lapping), MANN 926.

NATALIDAE

Chilonatalus reduced to subgenus of *Natalus*, DALQUEST 343.

Natalus systematic revision, DALQUEST 343.

Nyctiellus reduced to subgenus of *Natalus*, DALQUEST 343.

Phodotes synonym of *Natalus*, DALQUEST 343.

FURIPTERIDAE

Amorphochilus schnabli first record for Chile, MANN 927.

VESPERTILIONIDAE

Eptesicus fuscus longevity, BANFIELD 94; eating other bats in captivity, KRUTZSCH 838; *E. tenuipinnis ater* first Angolan record, p. 58, SANBORN 1194.

Enderma maculatu first Montana record, NICHOLSON 1009.

Glauconycteris argentata, *G. variegata papilio* first Angolan records, p. 60, SANBORN 1194; *G. poensis* wide variation in body pattern, *G. humeralis*, *G. alboguttatus* J. A. Allen both synonyms, HAYMAN and JONES 635.

Lasiurus borealis migration at sea, CARTER 273; *L. b. seminolus* a valid species, R. H. COLEMAN 308; *L. cinereus* unusual habit and habitat California, ORR 1047; wintering in San Francisco, ORR 1048; *L. semotus* status and habits Hawaii, BALDWIN 90.

† *Lasiurus fossilis* sp. nov. Pliocene, Fox Canyon, XI Ranch, Meade County, Kansas, p. 134, HIBBARD 669.

Miniopterus australis, *M. macrocneme* status and habits New Caledonia, SANBORN and NICHOLSON 1196; *M. schreibersi* range extension to mid-France, ABADIE 28

† *Miniopterus fossilis* sp. nov. Miocene, Neudorf, Czechoslovakia, p. 60, ZAPFE 1535.

Myotis longevity in Kentucky, BARBOUR 99; *M. bechsteini* photos, LEUTSCHER 882; *M. emarginatus* distribution and status in Europe, ISSEL 741; *M. lucifugus* winter foetus, GUILDAY 576; *M. myotis* ecology in Germany, KOLB 826; *M. mystacinus* recorded in Derbyshire, ANON. 2; unusual posture, PILL 1096; *M. nattereri* recorded in Westmorland, ANON. 1; *M. subulatus leibii* first N. Carolina record, ADAMS 32; first Virginia record, D. H. JOHNSON 757.

Nyctalus leisleri milk dentition details, MATTHEWS 941; first Essex record, BURTSAL 241.

† *Pareptesicus* gen. nov. p. 59, for type species *P. priscus* sp. nov. p. 59, Miocene, Neudorf, Czechoslovakia, ZAPFE Sitz Ber. ost. Akad. Wiss. Abt. 1. 159 1950.

Pipistrellus three species taken together in France, CHANUDET 287; photos of flight, WAREHAM 1440; P. review of N. American forms, *P. veracrucis* a subspecies of *P. subflavus*, HALL and DALQUEST 589; *P. cinnamonomus* Miller 1902, referred to *Myotis fortidens* Miller and Allen, HALL and DALQUEST 588; *P. kuhlii* occurrence in W. France, associating with *P. pipistrellus*, possible hybrids, NIORT 1012.

Pizonyx vivesi fish-eating habits and habitat, Mexico, L. W. WALKER 1432.

Plecotus auritus habits in captivity, THOLLANDER 1366; *P. homochrous*

first Nepal record, type locality Darjeeling, SANBORN 1191.

Scotophilus viridis damarensis first Angolan record, p. 59, SANBORN 1194; *S. wroughtoni* implantation and early development, GOPALAKRISHNA 548; placentation, GOPALAKRISHNA 549.

MOLOSSIDAE

Chaerephon lancasteri first Angolan record, second specimen known, p. 60, SANBORN 1194.

Mormopterus kalinowskii first record for Chile, MANN 927.

Tadarida cynocephala histology of face glands, WERNER and others 1461; *T. mexicana* composition of cave population, CAGLE 249.

Tadarida (Chaerephon) pumilus first record Arabia, p. 418, HAYMAN and HARRISON 634.

ORDER PRIMATES

History of primates, LE GROS CLARK 866.

Relationships of early primates, BARTH 105.

Primate brain external morphology, CONNOLLY 311.

* Relation of nail and toe in primates, GASSER 507.

Pelvis form and function in primates, KLEINSCHMIDT 807.

Anatomy of larynx in primates KLEINSCHMIDT 809.

Annotated catalogue of primates in Royal Scottish Museum, W. C. O. HILL 678.

Craniostat and projector for measuring monkey skulls, ASHTON and PARDOE 66.

SUBORDER PROSIMII

TUPAIIDAE

Ptilocercus lowi photo in captivity, J. L. HARRISON 615; notes on captive specimens, HARRISON and LIM 617.

Urogale everetti habits in captivity, WHARTON 1467.

LEMURIDAE

Lemur catta habits, food, habitat, HOOGSTRAAL 695.

INDRIDAE

Indris premolar formula, FRIANT 482.

LORISIDAE

Arctocebus calabarensis alimentary system, W. C. O. HILL 676.

TARSIIDAE

Tarsius carbonarius care and habits in captivity, WHARTON 1465.

SUBORDER ANTHROPOIDEA

CEBIDAE

Brazilian primates immunity to yellow fever, KUMM and LAEMMERT 845.

Alouatta brain, J. ANTHONY 55; primitive character of metacnule, DELLA SERRA 382.

Cebus brain, typical for platyrrhines, J. ANTHONY 55; variations in vomer, DELLA SERRA 384.

CALLITHRICIDAE

Taxonomics of marmosets, DELLA SERRA 383.

Popular account of marmosets, I. T. SANDERSON 1200.

Callithrix aurita taxonomic notes and addt. descr., MOOJEN 976; *C. melanoleuca* a Tamarin, DELLA SERRA 383.

Leontocebus hololeucus a Tamarin, DELLA SERRA 383.

CERCOPITHECIDAE

Cercopithecus Linnaeus validated, HEMMING 653; *C. sp. Mt. Debasien*, Uganda, p. 14, PITMAN 1097; *C. aethiops sabaeus* effect of isolation in W. Indies on tooth variation, etc., ASHTON and ZUCKERMAN 69.

Colobus, popular account of species and habits, HAYMAN 633.

Cynopithecus niger taxonomy and tooth characters, p. 39, HOOLJER 698.

Macaca inua habits on Gibraltar, C. HUNT 721; status and habits on

Gibraltar, SIR C. RUSSELL 1184; reactions to electric fences in zoo, URBAIN and others 1390; *M. maura* tooth characters, p. 37, HOOLJER 698; *M. mulatta* sex skin study, DURAN-REYNALS and others 403; *M. radiata* kidnapping young, BULLERMAN 214.

† *Macaca maura majuscula* subsp. nov. subfossil, Badjo (Barebo dist.), 20 km. S.W. of Watampone, Central Bone, S. Celebes, p. 57, HOOLJER 698

† *Parapapio coronatus* sp. nov. Pleistocene, Kromdraai, Transvaal, p. 242, BROOM and ROBINSON 201.

PONGIDAE

Anthropoid apes, pocket text book, URBAIN and RODE 1394.

Unpublished Huxleyan plates of anthropoid craniology, KEITH 790.

The classification of the S. African fossil ape-men, BROOM 191.

The "missing link," BROOM 192.

Australopithecinae—hominid or anthropoid, BROOM and ROBINSON 195.

Pelves of S. African fossil ape-men, BROOM and ROBINSON 198.

Hominoid affinities of Australopithecines, LE GROS CLARK 867.

Comment on recent Australopithecinae find, LE GROS CLARK 868.

Hominid characters of Australopithecine milk canine, LE GROS CLARK 869.

Anthropoid dental affinities of Australopithecines, ZUCKERMAN 1543, 1544.

Quantitative dental characteristics of the great apes, ASHTON and ZUCKERMAN 67.

Quantitative dental characters of fossil anthropoids, ASHTON and ZUCKERMAN 68.

Systematic position of Australopithecinae, SAUTER 1202.

Hybridism in primates, MONTAGU 974; Comparative anatomy of heart in Chimpanzee and Orang, LEIDEL 873.

Gorilla male external genitalia, HILL and MATTHEWS 679; aorta, KLEINSCHMIDT 808; spleen, liver, stomach and kidney, KLEINSCHMIDT 810; ana-

tomical studies, RAVEN and others 1135; authentic measurements and weights, WILLOUGHBY 1496; *G. gorilla* early accounts, BOUVEIGNES 178.

Hylobates agilis × *hoolock* hybrid, MONTAGU 974; *H. lar* family habits in captivity, MEYER-HOLZAPFEL 956.

†*Indopithecus* gen. nov. for type species "*Dryopithecus*" *giganteus* Pilgrim, p. 517, SCHAUB, Eclog. geol. Helvet 42 1949 [1950].

†*Limnopithecus macinnesi* sp. nov. Miocene, Rusinga Island., Kenya, p. 232, LE GROS CLARK 870; diagnosis of genus amplified, *L. macinnesi* addt. descr., p. 262, LE GROS CLARK and LEAKEY 871.

Pan troglodytes growth and development of young in captivity, CATEL 278; birth and development in captivity, SCHNEIDER 1238; development and learning ability in captivity, SCHNEIDER 1239.

†*Paranthropus crassidens* contemporaneous with man, BROOM and ROBINSON 196; skull and mandible descr. figs, BROOM and ROBINSON 197; characters and figures, BROOM and ROBINSON 199; tooth comparison with *Gorilla*, BROOM and ROBINSON 200; note, L. King 803.

†*Plesianthropus* additional structural evidence, brain casts, BROOM and others 202.

Pongo pygmaeus prognathism, HUSON 727; habits of circus specimens, PREY 1117; skull deformities in captivity, SCHEIDEGGER and WENDNAGEL 1227.

†*Proconsul major* Songhor, p. 233, *P. nyanzae* Rusinga, p. 234, spp. nov. Miocene, Kenya, LE GROS CLARK 870; diagnosis of genus amplified, *P. nyanzae* Rusinga, *P. major* Songhor, Miocene, Kenya addt. descr. LE GROS CLARK and LEAKEY 871; *P.* possible food fossilised, LEAKEY 864.

†*Sivapithecus africanus* sp. nov. Miocene, Rusinga Island, Kenya, p. 261, LE GROS CLARK and LEAKEY 871.

HOMINIDAE

New evidence on evolution of Hominoidea, LE GROS CLARK 870.

Summary of recent work on human evolution, DAWE 370.

New views on evolution of *Homo*, HEBERER 639.

Taxonomy and human evolution, with critical review of paleontological evidence, ZUCKERMAN 1545.

Human palaeontology, CHARLES 288.

New classification of races of fossil man (names non-Linnean), FRASSETTO 477.

Evolutionary significance of proto-styloid in fossil and recent hominidae, A. A. DAHLBERG 340.

Note on Piltdown skulls, BROOM 193.

Comparative morphology of man and anthropoids, EGGELING 414.

Man's relation to apes, W. C. O. HILL 677.

Relative limb proportions in man and apes, BEMMELEN 134.

Relative ages of Piltdown and Swanscombe skulls with special reference to fluorine tests, MARSTON 934.

Recent hominid finds in S. Africa, popular account with diagram, THRAPP 1368.

African pre-history, ARKELL 63.

Textbook introduction to anthropology, HOEBEL 687.

†*Eoanthropus dawsoni* fluorine test for antiquity, OAKLEY and HOSKINS 1019.

Homo sapiens morphology compared with other primates, A. H. SCHULTZ 1250.

†*Telanthropus capensis* doubtfully valid, STRAUS 1323.

ORDER EDENTATA

Mastication and nutrition in some edentates, KUHLEHORN 840.

Edentates of Sao Paulo, Brazil, VIEIRA 1408.

†MEGALONYCHIDAE

†*Megalonyx brachycephalus* sp. nov. Pleistocene, Trinidad, Henderson County, Texas, p. 223, STOVALL and MCANULTY 1321.

†MEGATHERIIDAE

†*Megatherium* (? *Paramegatherium*) *rusconi* addt. finds Pleistocene Venezuela, SCHAUB 1213.

BRADYPODIDAE

Key to sloths, KRUMBIEGEL 836.

DASYPODIDAE

Armadillo structural locomotive analogies with pangolins, FRECHKOP 479.

Dasytus novemcinctus spread and habits in U.S.A., TRESTER 1373; *D. n. mexicanus* status in Florida, POURNELLE 1111.

ORDER PHOLIDOTA

Pangolin structural locomotive analogies with armadillos FRECHKOP 479.

Manis javanica embryonic skull formation, STARCK 1294.

ORDER LAGOMORPHA

A fundamental sex characteristic of lagomorphs, PETRIDES 1084.

Duplicidentate foot structure, KASYAMENKO 783.

OCHOTONIDAE

Ochotona pallasi ecology in S. Khangay, Russia, TARASOV 1336; *O. princeps* gestation period, SEVERAID 1264; *O. p. moorei* subsp. nov. 1 mile N.E. of Baldy Ranger Station, Manti National Forest, 10,000 ft., Sanpete County, Utah, p. 344, M. C. GARDNER 501.

LEPORIDAE

Introduced rabbits and hares in New Zealand, WODZICKI 1504.

Lepus americanus cycle phases in 1946-48, CHITTY 291; aquatic ability, G. S. HUNT 723; *L. a. seclusus* subsp. nov. Bighorn Mts., Big Horn County, Wyoming, p. 63, BAKER and HANKINS 88; *L. arcticus* retention of winter coat in summer in Greenland, DONOVAN 393; *L. capensis* nasal region of skull, ELOFF 428; *L. europaeus* popular account, MYER 993; introduction to Ontario, ALLIN 49.

Oryctolagus cuniculus structure, physiology, habits, diseases, enemies, control, LINCKE 887; control in Gt. Britain, IMBIE 733; economic value, F. D. SMITH 1284; *O. dom.* reproduction, genetics, maternal influence on birth weight, VENGE 1403; criticism of polyploidy claims, BEATTY and FISCHBERG 117; colchicine-induced polyploidy, HAGGQVIST and BANE 582; *O. huxleyi* notes and photos of living animals, E. MOHR 963.

Paludilagus subgen. nov. for type species *Sylvilagus palustris*, see *Sylvilagus*.

Sylvilagus review of some S. American forms, KRUMBIEGEL 836; *S. brasiliensis*, *S. floridanus* review of S. American forms, *S. b. sanctaemartae* Colonia Agricola de Caracolito, Rio Ariguani, s. slope Sierra Nevada de Santa Marta, Magdalena, Colombia, p. 353, *S. b. peruanus* Tingo Maria, Rio Huallaga, Huanuco, Peru, p. 365, subsp. nov., HERSHKOVITZ 666; *S. idahoensis* range extension in California, SEVERAID 1263.

Sylvilagus (*Paludilagus* subgen. nov.) for *S. (P.) palustris*, p. 333, HERSHKOVITZ Proc. U.S. Nat. Mus. 100 1950.

†*Sylvilagus palustrellus* sp. nov. Pleistocene, Melbourne, Florida, p. 399, GAZIN 509.

ORDER RODENTIA

Rodent cycles, adreno-pituitary exhaustion hypothesis, CHRISTIAN 298.

Brain of rodents, CARETTE 265.

Pyramidal tract in rodents, DOUGLAS and BARR 396.

Rodents of Germany, MOHR 964.

Notes on some Dutch rodents. HUSSON 726.

Rodents harmful to grass in U.S.S.R., POLYAKOV 1102.

Rodent plagues in Poland 1946-47, SIMM and SKURATOWICZ 1271.

Rodents of N. Uganda, J. M. WATSON 1445.

Rodents of Selangor, HARRISON and TRAUB 618.

Water metabolism of desert rodents.
SCHMIDT-NIELSEN 1232.

Oligocene rodents from S.W. Germany, TOBIEN 1370.

SUBORDER SCIUROMORPHA

APLODONTIDAE

†*Ameniscomys* gen. nov. p. 326 for type species, *A. selenoides* sp. nov. Miocene, Eichstätt, Bavaria, p. 328, DEHM Abhandl. Neues Jahrb. Min. Geol. Pal. 91 (B) 1950.

Aplodontia habits, HERLOCKER 657.

†*Sciurodon descendens* sp. nov. Miocene, Eichstätt, Bavaria, p. 334, DEHM 378.

†EOMYIDAE

†*Eomys lophidens* sp. nov. Miocene Eichstätt, Bavaria, p. 407, DEHM 378.

SCIURIDAE

Squirrels in N. Borneo, T. HARRISSON 621.

Sciuridae of Nigeria, ROSEVEAR 1173.

†*Arctomys primigenia* Pleistocene France, descr. figs, FRIANT 485.

Callosciurus caniceps, *notatus* comparative status and distribution Malaya, J. L. HARRISON 614.

Citellus soil temperature relation to end of hibernation, WADE 1426 ; *C. barrowensis* fat metabolism, WILBER and MUSACCHIA 1490 ; *C. beecheyi* feeding on fish eggs, OLSON 1039 ; *C. heldingi crebus* first Utah record, PORTER 1106 ; *C. citellus* ecology in Yugoslavia, RUZHITCH-PETROV 1188 ; *C. pygmaeus* as forestry pest in U.S.S.R., STROGANOVA and UDIN 1324 ; *C. suslica* physiological effects of light changes, GERASIMENKO 520 ; stomach secretion in hibernation, PERSON 1079 ; *C. s. volhynensis* Olika, Volhynien, Lesostep and Polesie, W. Ukraine, *C. s. ognevi* Izmailsk area, between Dniester and Dunay Rivers, Ukraine, subsp. nov. p. 107, RESHETNIK 1146 ; *C. townsendii* status of name, type locality, T. H. SCHEFFER 1214.

Heliosciurus (*Aethosciurus*) *cooperi* sp. nov. Moababi R., Dikume Balue, Rumpi Hills, Kumba Division, Brit. Cameroons, p. 262, HAYMAN 632.

Marmota status and habits in Washington, CRISLER 328 ; *M. flaviventer nosophora* range extension in Montana, WRIGHT and CONAWAY 1514 ; *M. monax* gestation, HOYT 715 ; polyovular follicles, CHRISTIAN 297.

†*Paenemarmota barbouri* addt. descr. figs, p. 136, HIBBARD 669.

†*Paracitellus* gen. nov. p. 351, for type species *P. eminens* sp. nov. p. 352, and *P. spp.* nov. A. p. 359 and B. p. 362, all Miocene, Eichstätt, Bavaria, DEHM Abhandl. Neues Jahrb. Min. Geol. Pal. 91 (B) 1950.

Paraxerus vincenti sp. nov. Namuli Mt., P.E. Africa, p. 263, HAYMAN 632.

Pteromys inornatus habits in captivity, OSMASTON 1050.

†*Ratufa* ? *obtusidens* sp. nov. Miocene, Eichstätt, Bavaria, p. 348, DEHM 378.

†*Sciuropterus albanensis quiricensis*, subsp. nov., Miocene, Sant Quirze, Vallès-Penedés, Spain, p. 57, VILLALTA COMELLA 1413.

Sciurus black varieties in Europe, WILDASH 1492 ; *S. carolinensis* note on introduction to England, FRENCH 481 ; record in London, 1897, KETTLEWELL 800 ; status in Devon, p. 122, HURRELL 725 ; Melanism, in Britain, BEDFORD 118 ; melanism in Cambs. G. CARR. 268 ; early breeding date Berks., NARES 997 ; early breeding record, Derbyshire, RATCLIFF 1131 ; early breeding record in Oxon., ENGLAND 431 ; predation on young birds, DALTON 346 ; introduction and spread in Cape Province, S. Africa, D. H. S. DAVIS 367 ; *S. niger* status as introduced species in Washington, YOCOM 1523 ; *S. n. rufiventer* longevity, GREENE 562 ; *S. oculatus shawi* subsp. nov. Rancho San Francisco, 38 km. E. of San Luis Potosi city, Mexico, p. 4, DALQUEST 344 ; *S. vulgaris* as nest robber, HELLER 650 ; *S. v. leucourus* in Warwickshire, BARRYFORD 104 ; status in Cheshire, RILEY 1155 ; local decrease in Shropshire, B. 143 ; local decrease Wiltshire, CARNE 266 ; decrease in Dorset, W. D. LANG 853 ; breeding in Norfolk, LE STRANGE 880.

†*Sciurus costatus wintershofensis* subsp. nov. p. 338, *S. fissurae* sp. nov. p. 341, both Miocene, Eichstätt, Bavaria, DEHM 378.

Tamias striatus eating frog, HESTERBERG 667; *T. s. quebecensis* subsp. nov. St. Felicien, Lake St. John County, Quebec, p. 347, CAMERON 256; *T. t. townsendii* abnormal colour, SVIHLA and LARRISON 1329.

Tamiasciurus hudsonicus wasatchensis subsp. nov. Wasatch Mts., central Utah, p. 13, R. HARDY 608.

GEOMYIDAE

Geomys breviceps texensis, *G. bur-sarius llanensis* taxonomic relationship, BAKER 87.

†*Grangerimus sellardsi* sp. nov. Miocene or Oligocene, Bee County, Texas, p. 622, HIBBARD and WILSON 672.

†*Gregorymys montanensis* sp. nov. Miocene, Blacktail Deer Creek, Beaverhead County, Montana, p. 198, HIBBARD and KEENMON 670.

Thomomys bottae colour variation, INGLES 734; *T. talpoides louiei* subsp. nov. 12 m. N.N.E. of Cathlamet, Wahkiakum County, Washington, p. 92, GARDNER 500.

HETEROMYIDAE

Dipodomys merriami as factor in range vegetation, REYNOLDS 1151.

†*Perognathus rexroadensis* sp. nov. Pliocene, Fox Canyon, XI Ranch, Meade County, Kansas, p. 140, HIBBARD 669.

CASTORIDAE

Castor canadensis endourethral casts, G. F. JONES 766; detailed habits in New York State, TEVIS 1352; *C. c. repentinus* ecology and economic management, HENSLEY and FOX 655; *C. fiber*, *C. canadensis* history, structure, biology, HINZE 683; *C. fiber* review of history and status, GUT 577; status and habits on Rhone, URBAIN 1388; habits S. Norway, OLBERG 1033; zoology of burrows, BARABASH-NIKIFOROV 97.

†*Procastoroides sweeti* Pleistocene Nebraska, figs, FRANKFORTER 470.

ANOMALURIDAE

Anomaluridae of Nigeria, ROSEVEAR 1173.

†THERIDOMYIDAE

†*Trechomys bonduelli* generic and specific characters, DECHASEAUX 377.

PEDETIIDAE

Pedetes caffer birth in captivity, HEDIGER 644.

SUBORDER MYOMORPHA

CRICETIDAE

Notes on Mongolian Cricetinae, BANNIKOV 96.

Microtines from Arctic Alaska, RAUSCH 1132.

Distribution and evolution of European voles, ZIMMERMANN 1541.

Fossil voles from the Pleistocene of Holland, TESCH 1349.

Biological importance of lemmings in Alaska, N. A. WEBER 1449.

Small ericetines from Peru and Bolivia, SANBORN 1192.

Gerbils of Nigeria, ROSEVEAR 1173.

Akodon boliviensis Meyen type locality defined as Pichu-pichuni, Prov. of Chucuito, Huacullani, Peru, p. 12, SANBORN 1192.

Alticola tuvunicus sp. nov. Tuvinsk autonomous district, U.S.S.R., p. 520, OGNEV 1029.

Arvicola amphibius function of cheek gland, ORTMANN 1049; *A. terrestris* facial musculature, MEINERTZ 949.

Clektrionomys skomerensis history, habits, weights and measurements, PHILLIPS (in BUXTON and LOOKLEY) 247.

†*Cricetodon* sp. nov., Miocene, Eichstatt, Bavaria, p. 363, DEHM 378; *C. ibericus* sp. nov. Miocene, Pierola, Vallés-Panadés, Spain, p. 57, SCHAUB 1211; *C. montisrotundi* sp. nov. Pliocene, Montredon, Aude, France, p. 66, SCHAUB 1211.

Cricetus auratus hibernatory awaking mechanisms, LYMAN and CHATFIELD 902; osteogenesis, BEATTY and HILLEMANN 116; reproduction physiology, PURDY and HILLEMANN 1125; haematology and marrow, TRINCAO and others 1376; *C. cricetus* habits and

behaviour, PETZSCH 1089; facial musculature, MEINERTZ 949.

Dicrostonyx groenlandicus facial musculature, MEINERTZ 949.

Hesperomys lepidus montanus subsp. nov. El Cumbre, Bolivia, 15,200 ft. p. 4, SANBORN 1192.

Lemmus lemmus distribution in Finland, KALELA 778; habits and photos in captivity, E. MOHR 965.

Lenoxus apicalis boliviae subsp. nov. Nequejahuira, Unduavi R., Bolivia, 8,000 ft., p. 16, SANBORN 1192.

†*Melissiodon dominans* sp. nov. Miocene, Eichstatt, Bavaria, p. 366, DEHM 378.

Meriones persicus sylvatic plague, BALTAZARD and MOFIDI 93.

Microtus afghanus balchanensis subsp. nov. Bolshize Balkhany Mts., W. Turkmenia, p. 149, HEPTNER and SHUKUROV 656; *M. agrestis* chromosomes, MATTHEY 943; occurrence in Moravia, KRATOCHVIL and GRULICH 832; *M. arvalis* 1949 population maximum in Slovakia, TURCEK 1383; *M. a. incognitus* measurements and addt. descr. first record Czechoslovakia, HANZAK and ROSICKY 601; *M. a. ruthenus* Omutninsk region, Kirov district, p. 210, *M. a. caspicus* Tchan-yushkima, south Astrakhan District, p. 215, *M. a. kirgisorum* Tuyouk, Kirgizki Mts., Khirgiz, p. 219, *M. a. innae* Lake Issik-Kul, Transilisk Alatau, Khirgiz, p. 221, subsp. nov. U.S.S.R., OGNEV 1029; *M. californicus* cannibalistic habits, VOGÉ 1421; *M. mirhanreini* Schaefer, addt. descr. supplementary diagnosis based on complete specimens, HANZAK and ROSICKY 601; addt. descr., figs, EHIK 415; *M. miurus paneaki* subsp. nov. Tolugak Lake, Brooks Range, Alaska, p. 135, RAUSCH 1132.

†*Microtus* cf. *agrestis* question of geological age, SCHREUDER 1248.

†*M. arvalis-agrestis* recorded from Pleistocene, Swanscombe, Kent; notes on other fossil microtines from same locality, SCHREUDER 1247; *M. cyrenae* sp. nov. Mesolithic, Ed Dabba cave, N.W. Cyrenaica, p. 982, BATE 111.

Microtus (Chilotus) socialis nikolajevi subsp. nov. Kuyouk-Tuk Island, Sivash, U.S.S.R. p. 387, OGNEV 1029.

Microtus (Chionomys) nivalis loginovi subsp. nov. Mt. Atcheshbok, Caucasian State Nature Reserve, U.S.S.R., p. 448, OGNEV 1029.

Microtus (Stenocranius) gregalis dukelskiae subsp. nov. Vostotchnoye, 35 km. S.E. of Manusinsk, U.S.S.R., p. 477, OGNEV 1029.

Myopus schisticolor habits and photos in captivity, E. MOHR 965.

Myospalax comparative eye structure, YU-CH'UAN TSANG 1530.

Neofiber alleni range extension in Georgia, SCHANTZ and JENKINS 1210.

Neotoma cinerea cycle in Wyoming, NEGUS 1001; *N. c. macrodon* 1 m. S.E. of Ouray, Uintah County, p. 417; *N. lepida sanrafaeli* Rock Canyon Corral, 5 m. S.E. of Valley City, Grand County, p. 418, both Utah, subsp. nov. KELSON 794; *N. floridana floridana* status Florida, POURNELLE 1111; habits and breeding in captivity, WORTH 1510; *N. fuscipes monochroua* nest fauna, WALTERS and ROTH 1437; *N. magister* status in N.W. Pennsylvania, RICHMOND and ROSLUND 1153.

Ondatra zibethica mating habits, SALINGER 1190; reproductive rate, GASHWILER 506; introduction and spread in Europe, KLEMM 811; spread and control in post-war Germany, KLEMM 812; winter food reserves in Russia, TCHELTZOV-BEBUTOV 1341; backward swimming ability, A. W. PETERSON 1081; mussel-eating habit, RIEDEL 1154; *O. z. rivalicia* ecology and management in Louisiana, O'NEILL 1044.

Oryzomys melanotis a Mexican specimen referred to *O. couesi*, VILLA 1409; *O. palustris natator* habits and breeding in captivity, WORTH 1510.

Peromyscus ecology and speciation, BLAIR 150; intense ecological study of three species in California, McCABE and BLANCHARD 905; water requirements in breeding season, LINDBERG 888; *P. latirostris* sp. nov. Apeteco, near Xilitla, 2700 ft. San Luis Potosi, Mexico, p. 8, DALQUEST 344; *P. leu-*

copus noveboracensis winter breeding in captivity, HOWARD 712; *P. maniculatus bairdii* ecology in Manitoba, CRIDDLE 325; new records New York and Pennsylvania, W. J. HAMILTON 593; *P. polionotus* variation in laboratory-bred stocks, reliability as samples of wild populations, HAYNE 637.

Peromyscus (Megadontomys) not a valid subgenus, p. 9, DALQUEST 344.

Phenacomys intermedius intermedius habitat adaptability in Wyoming, NEGUS 1002.

Phyllotis darwini preliminary note on revision, YEPES 1522; *P. nogalensis* first record for Chile, MANN 927.

Pitymys subterraneus occurrence in Moravia, KRATOCHVIL and GRULICH 832; status and habits S. Germany, KAHMANN 775.

†*Pliophenacomys primaeus* addt. descr., figs, p. 150, HIBBAED 669.

Reithrodontomys cranial musculature affecting skull form, RINKER and HOOPER 1156; *R. fulvescens infernalis* Teotitlan 3,100 ft., Oaxaca, Mexico, p. 167, *R. microdon wagneri*, west flanks Cerro San Andres, 9,400 ft., 10 m. N.W. of Ciudad Hidalgo, Michoacan, Mexico, p. 169, subspp. nov., E. T. HOOPER 703; *R. humulis humulis*, *R. fulvescens aurantius* range extensions in Tennessee, Kentucky and Mississippi, MILLER and ROBERTSON 959; *R. megalotis pectoralis* new record Wisconsin, SCHORGER 1244; *R. mexicanus scansor* subsp. nov. Villa Flores, 2,000 ft., Chiapas, Mexico, p. 418, E. T. HOOPER 702.

Synaptomys borealis first record Montana, P. L. WRIGHT 1513; *S. cooperi* local abundance in Illinois, HOFFMEISTER 688.

MURIDAE

Tracks of rats and mice, KEMPER 797.

Rats, mites and scrub-typhus in Batavia, GISPEN 535.

Rats and scrub typhus in Malaya, TRAUB and others 1372.

Survey of rats, fleas and plague in Uganda, HOPKINS 707.

Rats as pests, nomenclature and habits, M. BURTON 234.

Rats in Hawaii, home range and survival, SPENCER and DAVIS 1290.

Notes and key for Manipur rats, ROONWAL 1170.

Key to Nigerian Muridae, ROSEVEAR 1173.

Introduced murids in New Zealand, WODZICKI 1504.

Apodemus agrarius ecology in U.S.S.R., SVIRIDENKO 1331; *A. flavicollis*, *A. sylvaticus* comparative study, LUTTSCHWAGER 900; *A. sylvaticus* seasonal breeding activity, RAYNAUD 1137, 1138; sexual activity affected by external factors, RAYNAUD 1139.

Bandicota bengalensis growth-rate, mortality rate, HARRISON and WOODVILLE 619.

Dendromus pumilio uthmoelleri Bashai Mbulu, T.T., p. 170, *D. p. kumasi* Kumasi, Gold Coast, p. 170, *D. mesomelas kilimandjari* Peters Hut, Kilimanjaro, 3,800 m. T.T., p. 171, *D. m. hintoni* Uluguru Mts., T.T. (7° S., 37° 5' E.) p. 171, subspp. nov. BOHMANN [Recorded N.V. 1941 without data] Zool. Anz. Leipzig 127 1939.

Leggada nagarum imphalensis detailed description, p. 53, ROONWAL 1170.

Lenomys meyeri notes on recent and subfossil specimens, p. 75, HOOIJER 698.

Micromys minutus status and habits in Germany, photos, FELTEN 440.

Mus musculus taxonomy and distribution in Europe, ZIMMERMANN 1540; skeletal variations in wild populations, W. WEBER 1450; chromosome study technique, SLIZYNSKI 1281; indoor home range study, YOUNG and others 1527; ecology in Lawrence, Kansas, O. M. KING 804; *M. m.*, *M. m. hortulanus* age determination by teeth, VARSHAVSKI 1401; *M. m.*, *M. spicilegus* biology, EIBL-EIBESFELDT 417; *M. hortulanus*, *M. spicilegus* taxonomic status in Slovakia, FERIANC 443.

Otomys typus zinki type locality Peters' Hut, 3,800 m., Kilimanjaro, p. 153; *O. denti sungae* type locality Sunga, Usambaras, 1900 m., p. 154,

both Tanganyika, BOHMANN 1943 (Recorded incompletely 1945) Zool. Anz. Leipzig 143.

Rattus notes on Far East species, OGNEV 1030; notes on recent and sub-fossil Celebes forms, p. 78, HOOIJER 698; albinism in the wild, GIBSON-HILL 527; *R. manipulus kekrimus* detailed description, p. 45, ROONWAL 1170; *R. norvegicus* ecology and habits, STEINIGER 1300; sex ratios at all ages, SCHEIN 1228; facial musculature, MEINERTZ 949; skulls showing likeness to those of *R. rattus*, CANTUEL 263; population study under control, CALHOUN 254; numbers and destructiveness on a bird sanctuary, STEINIGER 1298, 1299; New York 1949 population, D. E. DAVIS 363; 1949 Baltimore population, DAVIS and FALES 365; ecology in Lawrence, Kansas, KING 804; *R. n.*, *R. rattus* comparative study, H. PETERS 1080; *R. rattus* status in London area, J. FISHER 451; reproduction in London and Cyprus, J. S. WATSON 1446; habits, population study in Florida, WORTH 1509; *R. r. alexandrinus* occurrence W. Virginia, BARBOUR 100; *R. r. bullocki* detailed description, p. 20, ROONWAL 1170; *R. r. jarak* characters and population study, HARRISON in AUDY and HARRISON 77; status and habits on Jarak Island, AUDY 76; *R. r. keelingensis* subsp. nov. Pulo Tikus (Direction Island), Cocos-Keeling Is., p. 276; discussion on muridae of the islands and their origin, TATE 1337; *R. r. kijabius* infected with *Spirillum minus* in Kenya, HEISCH 648.

GLIRIDAE

Histology of tail regeneration in dormice, HAEFFNER 579.

Dormice of Nigeria, ROSEVEAR 1173.

Dryomys nitedula carpathica occurrence in Moravia, KRATOCHVIL and GRULICH 832.

†*Dryomys gregarius* sp. nov. Miocene, Eichstatt, Bavaria, p. 379, DEHM 378.

†*Glirulus gracilis* p. 391, *G. modestus* p. 396, *G. ?* sp. nov. p. 399, spp. nov. Miocene, Eichstatt, Bavaria, DEHM 378.

Glis glis history and status in England distribution map, CARRINGTON 269.

†*Glis ? spectabilis* sp. nov. Miocene, Eichstatt, Bavaria, p. 400, DEHM 378.

†*Heteromyoxus schlosseri* sp. nov. Miocene, Eichstatt, Bavaria, p. 384, DEHM 378.

Muscardinus uellhanarius occurrence in Haute-Savoie, DUCKERT 399; distribution and ecology in Bavarian and Austrian Alps, KAHMANN and FRISCH 776; occurrence and habits S. Sweden, NEANDER 1000.

ZAPODIDAE

Sicista taxonomic notes, PAGAST 1058; *S. betulina* ecology, habits, hibernation E. Prussia, GOTTLIEB 551; *S. b. montana* occurrence in Moravia, KRATOCHVIL and GRULICH 832.

Zapus hudsonius additional Georgia records, JENKINS and JOHNSTON 752; *Z. h. pallidus* subsp. nov. Lawrence, Douglas County, Kansas, p. 1, COCKRUM and BAKER 305; swimming ability, J. K. JONES 767; *Z. princeps* first report of tularemia, NAKAMURA 996.

DIPODIDAE

Allactaga sibirica annulata preliminary study, PAO-SHAN CHENG 1064.

SUBORDER HYSTRICOMORPHA

Hystricomorph evolution and parallelism, A. E. WOOD 1506.

HYSTRICIDAE

Old and New World porcupines, comparison, M. BURTON 233.

ERETHIZONTIDAE

New and Old World porcupines, comparison, M. BURTON 233.

Coendou distribution and key of species, KRUMBIEGEL 836.

Erethizon care and handling in captivity, SHADLE 1265; *E. dorsatum* popular account, photos, SPENCER 1289; swimming for food, DEAN 373.

CAVIIDAE

Cavia porcellus comparative morphology, THENIUS 1363.

Dolichotis, systematics, distribution, key, KRUMBIEGEL 836.

Galea musteloides musteloides first record for Chile, MANN 927.

HYDROCHOERIDAE

Hydrochoerus hydrochoeris snout gland, REWELL 1149; lymphatic system, OTTAVIANI 1053.

DASYPROCTIDAE

Review of Dasypsectidae, KRUM-BIEGEL 836.

Dasypsecta cristata from Pleistocene, Martinique, FRIANT 484.

CHINCHILLIDAE

Chinchilla study of hair formation, WILCOX 1491; myology, WOOD and WHITE 1507.

CAPROMYIDAE

†*Isomypotamus albaniri* sp. nov. Pliocene, Monte Hermoso, Argentine, p. 110, REIG 1142.

Myocastor coypus ecology in Louisiana ATWOOD 73; farming in Denmark, GRAAE 554.

CTENOMYIDAE

Ctenomys taxonomic notes, KRUM-BIEGEL 836.

ECHIMYIDAE

Echimyus (Phyllomys) kerri sp. nov. Ubatuba, S. Paulo, Brazil, p. 489, MOOJEN 975.

ORDER CETACEA

Cetacea linked to Artiodactyla by serology, BOYDEN and GEMEROY 179.

International whaling statistics 1947-49 (Antarctic) and 1948 (other areas), JAHN and others 745.

Whale body weight data, NISHIWAKI 1017.

Cetacean larynx structure and function, HOSOKAWA 710.

Foetal study of whales, MIZUE and JIMBO 961.

Age changes in whale eye colour, NISHIWAKI 1015.

VOL. 87

Pregnancy and parturition in Cetacea, SLIPPER 1279.

Iodine values in whale stocks, LUND 896, 897.

Whale skin diatoms, WERFF 1460.

Diatom infection of antarctic whales, OMURA 1042.

Cetaceans on Tunisian coasts, HELDT 649.

Cetacea stranded on Cocos-Keeling Is., GIBSON-HILL 531.

Cetacea of Sarawak, GIBSON-HILL 532.

Whaling in Bonin Island region, MIZUE 960.

Whaling data from Japanese seas, OMURA 1043.

Japanese whaling prior to 1946, TERRY 1348.

Fossil cetacea from E. Canada, LAVERDIERE 861.

SUBORDER ODONTOCETI

Cetacea in captivity, MEERTENS 954.

Large assemblies of porpoises in N. Pacific, V. B. SCHEFFER 1215.

Adaptive features of porpoise head, SINCLAIR 1273.

†SQUALODONTIDAE

†*Neosqualodon* Miocene, Italy, FABIANI 435.

ZIPHIIDAE

Hyperoodon rostratus maxillary teeth, BOSCHMA 169.

Mesoplodon grayi maxillary teeth, colour and complete figure of specimen, BOSCHMA 169; *M. hectori*, skull from Falklands, third known specimen, FRASER 475.

PHYSETERIDAE

Physeter catodon distribution in Pacific KIRPITCHNIKOV 806; recent strandings in Italy, BOLOGNARI 156; body weight statistics, OMURA 1041; tooth tissue absorption, BOSCHMA 163.

MONODONTIDAE

Delphinapterus leucas status N.W. Greenland, VIBE 1405 ; first record W. France, NIORT 1014.

Monodon monoceros status, habits, ecology N.W. Greenland, VIBE 1405 ; foetal skull, comparative study, EALES 405 ; notes on a Vancouver Museum specimen, MENZIES 952.

DELPHINIDAE

Delphinus delphis speed, G. A. STEVEN 1302.

Globicephala macrorhyncha skulls from Senegal, skull characters and status, FRASER 473 ; *G. melaena* stranded shoal at East Lothian, photos. ANON. 7 ; notes on a stranded school E. Lothian, D. STEVEN 1301.

Lagenorhynchus obliquidens summary of N. American records, V. B. SCHEFFER 1219.

Orca gladiator stranded in India, MOSES 988.

Stenella frontalis male urinogenital anatomy, L. H. MATTHEWS 942 ; study of a W. African specimen, taxonomic status, distinctions from *S. attenuata*, FRASER 474.

Tursiops gillii, *T. nuuanu* comparative data on specimens from Gulf of California, MAYER 946.

PHOCAENIDAE

Phocaenoides dalli occurrence in N.E. Pacific, NICHOLS 1008.

SUBORDER MYSTICETI

Age characteristics of baleen, NISHIWAKI 1016.

BALAENOPTERIDAE

Statistics on Japanese antarctic catch 1947-48, NISHIWAKI and HAYASHI 1018.

Rorquals recorded from coasts of India and Malaya, GIBSON-HILL 526.

Corpora lutea histology in fin whales, LENNEP 875 ; Tumours in fin whales, STOLK 1317.

Balaenoptera study of sensory organs of mouth and lips, OGAWA and SHIDA 1028 ; notes on foetal anatomy, RADICE 1126 ; *B. borealis* body weight statistics, OMURA 1041 ; occurrence and food off Gaboon, BUDKER 211 ; *B. edeni*, characters of a Malayan specimen, *B. brydei* a synonym, comparison with *B. borealis*, JUNGE 774 ; *B. musculus* decline of Antarctic stocks, ANON. 15 ; age study, OTTESTAD 1054 ; age calculation and distribution, RUUD 1186 ; age studies, RUUD and JONSGARD 1187 ; *B. physalus* embryonic development, ZEMSKI 1538 ; bone marrow distribution, OHE 1032 ; weight of a large female, WINSTON 1498.

Megaptera nodosa report on Gaboon whaling, BUDKER 212.

BALAENIDAE

Balaena australis stranded in India, MOSES 988.

ORDER CARNIVORA

Some rare carnivores from Kazakhstan, SLUDSKI 1282.

Carnivora of N. Uganda, J. M. WATSON 1445.

Introduced carnivores in New Zealand, WODZICKI 1504.

Badger-coyote hunting "partnership," CAHALANE 250.

Pliocene carnivores from S. France, SCHAUB 1212.

Miocene carnivores of Bavaria, DEHM 380.

Fossil carnivores of Brazil, COUTO 320.

SUBORDER CREODONTA

†ARCTOCYONIDAE

Evolution in teeth and jaws of Arctocyonidae, WEIGELT 1454.

†*Arctocyonides trouessarti* Paleocene Germany, descr. figs, p. 420, WEIGELT 1455.

SUBORDER FISSIPEDA

CANIDAE

Breeding biology of Canidae in captivity, SCHNEIDER 1240.

Genetics of sporting dogs, WINGE 1497.

Unidentified canids in Burma, BOSWELL 170.

Canidae of Chile, HOUSSE 711.

†*Alopecodon gaillardi* synonym of *A. leptorhynchus* p. 725, THENIUS 1358; *A. leptorhynchus* Miocene, Austria, descr. figs, p. 723, THENIUS 1358; Miocene, Czechoslovakia, descr. figs, p. 128, ZAPFE 1536.

Alopec lagopus a Cape Breton record, CAMERON 257; farming on Pribilofs, 1947, THOMSON 1367.

†*Amphicyon maior*, *A. cf. steinheimensis* Miocene, Czechoslovakia, descr. figs., ZAPFE 1536; *A. major serbica* subsp. nov. Miocene, Despotovac, Serbia, p. 28, LASKAREV 859; *A. schlosseri* p. 20, *A. helbingi* p. 23, *A. acutidens* p. 29, *A. dietrichi* p. 30, spp. nov. Miocene, Wintershof-West, Eichstatt, Bavaria, DEHM 380; *A. steinheimensis* Miocene, Austria, descr. figs, p. 716, THENIUS 1358.

†*Borophagus diversidens* descr. and fig. of second specimen, p. 159 HIBBARD 669.

Canis dom. the oldest European domestic animal, LA BAUME 847; *C. ingae* non-European origin of Inca dog, FRIANT 488; *C. latrans* study of habits, FICHTER 446; *C. lupus* attacking man in Turkey, BURE 221; *C. l. occidentalis* no regular runways? DE VOS 388; a census method, ROWAN 1177.

†*Canis cipio* sp. nov. Pliocene, Conced, Spain, p. 47, CRUSAFONT PAIRO 334.

Cuon note on Burmese forms, R. W. BURTON 237; *C. javanicus* habits, Central India, F. L. ROBERTS 1162

Fennecus zerda habits in captivity, RENSCH 1145.

†*Harpaleocyon sansaniensis* Miocene, Austria, descr. figs. p. 737, THENIUS 1358.

†*Hemicyon* sp. nov. 1, p. 36, *H. sp.* nov. 2, p. 37, Miocene, Wintershof-West, Eichstatt, Bavaria, DEHM 380; *H. sansaniensis* Miocene, Austria, descr. figs, p. 732, THENIUS 1358; Miocene, Czechoslovakia, descr. figs, ZAPFE 1536.

Lycalopex thous flavogriseus subsp. nov. coastal region, Santa Catharina, Brazil, p. 212, ZUKOWSKY 1546.

Lycan pictus hunting habits, BARTLETT 108; CHALMERS 282; T. 1351; breeding in captivity, ZABINSKI 1532.

Nyctereutes procyonoides feral in Finland, E. SUOMALAINEN 1325, 1326; habits in captivity, FRANZ 472; food in Astrakhan, RUKOVSKI 1180.

Oreocyon gen. nov. for type species *O. hagenbecki* sp. nov. "Andes," S. America, p. 591, KRUMRIEGEL, Umschau, 49 19, 1949.

Otocyon megalotis from Karamoja, first Uganda record, p. 16, PITMAN 1097.

†*Pseudarctos bavaricus* Miocene, Austria, p. 720, THENIUS 1358.

†*Simocyon* systematic position, THENIUS 1360.

Urocyon cinereoargenteus ocythous second N. Dakota record, SCHANTZ 1207.

Vulpes behaviour studies in captivity, SEITZ 1259; *V. fulva* population cycles and genetics of colour phases, CALHOUN 253; ecology on Montreal Island, PHILIPPE 1091; breeding behaviour, voice and habits on fur farm, J. H. F. STEVENSON 1304; litter sizes, SWITZENBERG 1332; *V. vulpes crucigera* in Hampstead, London, DUNN 400.

URSIDAE

Hybrid polar and Kadiak bears, M. DAVIS 368.

Bacula of Ursidae, DIDIER 391

Pleistocene bears from Mexico, STOCK 1312.

Euarctos americanus growth of young, SCHLOTT 1231; preying on man, recent case, WHITLOCK 1484.

†*Hyaenarctos cf. schneideri* from Pliocene Mexico, STOCK 1313.

†*Indarctos* comparative study of auditory region, THENIUS 1355; *I. vireti* sp. nov. Miocene Cuenca Purull (Villadecaballs), Vallés-Penedés, Spain, VILLALTA and CRUSAFONT PAIRO 1412.

Thalarchos maritimus birth and development in captivity, VLASAK 1420; fat metabolism and lipids, WILBER and MUSACCHIA 1439.

†*Tremarctos mexicanus* sp. nov. Pleistocene, San Josecito Cave, s. Nuevo Leon, Mexico, p. 317, STOCK 1312.

†*Ursavus brevirostris* Miocene Austria, descr. figs. p. 742, THENIUS 1358; Miocene, Czechoslovakia, descr. figs, ZAPPE 1536; †*U. depereti* Pliocene, France, p. 469, VIRET 1417.

Ursus arctos and related races, general characters, photos, M. BURTON 227; re-introduction to Bialowieza Forest, Poland, KARPINSKI 780; *U. californicus* additional specimen records, ORR 1046; *U. canadensis* recent Washington record, V. B. SCHEFFER 1216.

†*Ursus spelaeus* sexual dimorphism in canines, KOBY 819; premolar reduction, KOBY 820; long bone measurements, KOBY 821; metacarpal and phalange proportions, KOBY and FRITZ 822.

PROCYONIDAE

Bacula of Procyonidae, DIDIER 391.

Bassariscus astutus willetti subsp. nov. S.E. California, p. , STAGER 1293.

†*Bassariscus rexroadensis* sp. nov. Pliocene, Fox Canyon, XI Ranch, Meade County, Kansas, p. 161, HIBBARD 669.

Procyon review of N. American forms, GOLDMAN 543; *P. lotor* age estimation methods, G. C. SANDERSON 1199; status and habits, ULMER 1387; *P. l. psora* population analysis, Washington, V. B. SCHEFFER 1218; food habits, Washington, TYSON 1384.

MUSTELIDAE

Stoats and weasels, economic value, PETRIE 1036.

Aonyx, food choice, BRYANT 209

†*Baranogale* cf. *helbingi* Pliocene, S. France, p. 503, SCHAUB 1212.

†*Broiliana* gen. nov. p. 80 for type species *B. nobilis* sp. nov. p. 81, Miocene, Wintershof-West, Eichstatt, Bavaria, DEHM Abh. Bayer. Akad. Wiss. N.F. No. 58, 1950.

†*Buisnictis* gen. nov. for type species, *B. meadensis* sp. nov. Pliocene, Fox Canyon, XI Ranch, Meade County, Kansas, HIBBARD Contr. Paleont. Mus. Univ. Michigan 8 1950, p. 164.

Enhydra lutris photographed on Amchitka Island, ANON 5; recovery, photos, ANON. 26; *E. l. nereis* not a valid race, SCHEFFER and WILKE 1225.

†*Enhydriactis galictoides* status, *E. ardea* identity, VIRET 1418.

Grisson revision and key, KRUMBIEGEL 836.

Gulo luscus past status in Michigan, MANVILLE 931; *G. l. luteus* recent records in California, F. L. JONES 764.

†*Laphycitis* ? *vorax* p. 69, *L. ? comitans* p. 71, Miocene, Wintershof-West, Bavaria, DEHM 380.

†*Limnonyx* gen. nov. for type species *L. sinneri* sp. nov. Miocene, Can Ponsich, Vallés-Penedés, Spain, p. 140, CRUSAFONT PAIRO Notas Comm. Inst. Geol. Min. Esp. 20 1950.

Lutra lutra general habits, MACINTYRE 915; food choice, G. A. MACKENZIE 917; food habits, WEST COUNTRY 1462.

Lutreola lutreola borealis subsp. nov. nr. Aktubinsk, Upper Ilek River, Kazakstan, p. 11, SLUDSKI 1282.

? *Martes* in Bedfordshire, LEWIS 884; *M. americana* food habits in Rocky Mts., COWAN and MACKAY 322; *M. martes* recent records in Ireland, B. C. E. 114; status and habits in Lakeland, CLAPHAM 303; *M. zibellina* breeding in Bazguzin Reserve, U.S.S.R., BELISHEV 132.

†*Martes gamlitzensis* Miocene, Austria, taxonomic note, THENIUS 1359; *M. laevidens* sp. nov. Miocene, Wintershof-West, Eichstatt, Bavaria, p. 65, DEHM 380.

Meles meles study of habits in captivity, EIBL-EIBESFELDT 416; field notes, LEUTSCHER 881; play habits, NEAL 999; habits in Cheshire, J. E. ROBERTS 1163; habits, photos, sketches, TINBERGEN 1369.

Mephitis macroura geographic range; *M. m. eximius* subsp. nov. 15 kms. W. of Piedras Negras, Veracruz, Mexico, p. 579, HALL and DALQUEST 587.

†*Miomephitis* gen. nov. for type species, *M. pilgrimi* sp. nov. Miocene, Wintershof-West, Eichstatt, Bavaria, p. 111, DEHM Abh. bayer. Akad. Wiss. N.F. No. 58, 1950.

†*Mionictis dubia* Miocene, Austria, descr. figs., p. 698, THENIUS 1358.

Mustela erminea as prey of cat, DATHE 356; *M. e. stabilis* breeding in bird's nest, NEWMAN 1007; *M. furo* hermaphroditism, ROSE 1172; *M. lutreola* recent status in S.W. France, ASTRE 72; *M. nigripes* first record Oklahoma, ARVEY and GLASS 65; recent records Montana, CRABB and WATSON 324; *M. nivalis* habits and ecology in Germany, GOETHE 542; habits, SEVENSTER 1262; *M. rixosa allegheniensis* distribution in Wisconsin, BEER 127.

†*Mustela rexroadensis* sp. nov. Pliocene, Fox Canyon, Meade County, Kansas, p. 163, HIBBARD 669.

†*Palaeogale hyaenoides* sp. nov. Miocene, Wintershof-West, Eichstatt, Bavaria, p. 75, DEHM 380.

†*Pannonictis* a valid genus, VIRET 1418; *P. ardea* Pliocene, S. France, descr. figs., p. 501, SCHAUB 1212.

†*Plesictis mayri* p. 46, *P. vireti* p. 50, *P. ? humilidens* p. 54, spp. nov. Miocene, Wintershof-West, Eichstatt, Bavaria, DEHM 380.

†*Plesiogale ? postfelina* sp. nov. Miocene, Wintershof-West, Eichstatt, Bavaria, p. 79, DEHM 380.

†*Proputorius olivolanus* Martelli is *Enhydriectis*, VIRET 1418.

Putorius putorius photos, FELTEN 441; supposed occurrence in Essex, WILLIS 1495.

†*Putorius ardeus* Bravard is *Enhydriectis*, VIRET 1418.

†*Stromeriella* gen. nov. p. 99 for type species, *S. franconica* sp. nov., p. 100, Miocene, Wintershof-West, Eichstatt, Bavaria, DEHM Abh. bayer. Akad. Wiss. N.F. No. 58, 1950.

Taxidea taxus fishing habit, DRAKE and PRESNALL 398; *T. t. kansensis* subsp. nov. 4 m. S.E. of McLouth, Leavenworth County, Kansas, p. 346, SCHANTZ 1208; *T. t. merriami* subsp. nov. Banner, Trego County, Kansas, p. 92, SCHANTZ 1209; *T. t. montana* subsp. nov. 35 m. S. of Dillon, Beaverhead County, Montana, p. 90, SCHANTZ 1206.

Tayra revision and key, KRUMBIEGEL 836.

†*Trocharon albanense* Miocene, Czechoslovakia, descr. figs., p. 110, ZAPFE 1536.

†*Trochictis depereti* Miocene, Austria, descr. figs., p. 709, THENIUS 1358.

VIVERRIDAE

†*Macrogalidia musschenbroeki meridionalis* subsp. nov. subfossil, Badjo (Barebo dist.), 20 km. S.W. of Watampone, Central Bone, S. Celebes, p. 89, HOOIJER 698.

†*Progenetta praecurrens* sp. nov. Miocene, Wintershof-West, Eichstatt, Bavaria, p. 121, DEHM 380.

†*Semigenetta ? elegans* sp. nov. Miocene, Wintershof-West, Eichstatt, Bavaria, p. 117, DEHM 380.

HYAENIDAE

†*Leecyaena* gen. nov. for type species, *L. lycyaenoides* sp. nov. Pliocene, Shansi, China, p. 274, YOUNG and LIU, Contrib. Nat. Res. Inst. Geol. Acad. Sinica 8, 1948.

FELIDAE

Systematics of the large cats, LEYHAUSEN 885.

Genetics of London cats, SEARLE 1258.

Acinonyx jubatus use of dew-claw in hunting, R. W. BURTON 240.

†*Acinonyx pardinensis* Pliocene, S. France, with figs. of type, p. 492, SCHAUB 1212.

†*Ailurictis jourdani* Miocene, Czechoslovakia, descr. figs., ZAPFE 1533.

Eremaelurus margarita thinobius in Kazakhstan, SLUDSKI 1282.

Felis dom. genetics of Siamese breed, MOUTSCHEN 990; origin of tailless breeds, SCHWANGART 1253; *F. concolor coryi* habits, voice, R. ALLEN 47; *F. lybica foxi* notes on Togoland specimens, colour variability, measurements, DORST 394; *F. margarita*? first record Arabia (Rub' al Khali), p. 418, HAYMAN and HARRISON 634; *F. uncia schneideri* subsp. nov. Sikkim (type a painting), p. 213, ZUKOWSKY 1546.

†*Felis toscana* sp. nov. Pliocene, Sta. Maria, near Tasso, Italy, p. 499, SCHAUB 1212.

Lynx lynx habits and behaviour, LINDEMANN 889; *L. rufus* breeding habits in N.E. U.S.A., POLLACK 1101.

Neofelis nebulosa diardi notes on occurrence and habits Borneo; type locality probably Sumatra, range does not include Java, GIBSON-HILL 528.

†*Nimravus altidens* sp. nov. Oligocene, 7 m. E. of Rockyford, Shannon County, S. Dakota, p. 601, J. R. MACDONALD 909.

Panthera sexual dimorphism in skull, BOUCHUD 173; *P. leo* history of Cape race, appeal for relics, E. M. PALMER 1060; note on extinct Cape race, ANON. 25; the spotted lion legend, FORAN 466; habits in Kruger National Park, JENNINGS 753; a maned female, SCHNEIDER 1235; *P. l. persica* history and records in India, GILLAN 533; census in Kathiawar, WYNTER-BLYTH 1518, 1519; WINTER-BLYTH and DHARMAKUMARSINHJI 1520; *P. l. × tigris* hybrids, characters and behaviour, LEYHAUSEN 885; *P. pardus* record weight Rhodesia, JAMES 747; identity of "Panther" and Leopard, MACDONALD-TYLER 910; SHEBBEARE 1268; *P. tigris × P. leo* hybrid in Paris, URBAIN and RINJARD 1393; *P. tigris* an Indian trapping method, DAVER 359; proved cases of rabies, R. W. BURTON 239.

Prionailurus rubiginosus phillipsi description of colour pattern in young, PHILLIPS 1092; *P. viverrinus* date of breeding, A. ST. J. MACDONALD 906.

†*Pseudaelurus turnauensis*, *P. hyaenoides* Miocene, Austria, descr., p. 750, THENIUS 1358.

SUBORDER PINNIPEDIA

Seals and sea-lions, popular account, DARLING 355.

Techniques and results of marking seals and sea-lions, V. B. SCHEFFER 1221.

OTARIIDAE

Arctocephalus pusillus status, habits S. Africa, D. H. DAVIES 360; biological study S. Africa, RAND 1129; milk dentition, RAND 1130; *A. townsendi* on San Nicolas Island, California, account and photos, BARTHOLOMEW 107.

Callorhinus alascanus ecological and population problems, BERTRAM 139; *C. ursinus* report for Pribilofs, 1947, THOMPSON 1367; testes and baculum growth rate, V. B. SCHEFFER 1217; food habits, V. B. SCHEFFER 1222, 1223; heavy winter mortality on N.W. Coast, U.S.A., V. B. SCHEFFER 1224.

Eumetopias jubata in Alaska, status, habits, depredations, control, IMLER and SARBER 732.

Otaria flavescens status in Tierra del Fuego, LOPEZ 895.

ODOBENIDAE

Odobenus history of exploitation, present status, MATHESON 939; *O. obesus* fat metabolism and lipids, WILBER and MUSACCHIA 1489; *O. rosmarus* distribution, habits, ecology N.W. Greenland, VIBE 1405.

PHOCIDAE

Hair and bristles in Phocidae, E. MOHR 968.

Anatomy of heart in seals, MULLER 991.

Growth marks on seal teeth, V. B. SCHEFFER 1220.

Seal habits on Campbell Island, LANGLEY 855.

Cystophora cristata habits, status, structure of "hood," OLDS 1034; status in N.W. Greenland, VIBE 1405.

Erignathus barbatus status, habits, ecology, N.W. Greenland, VIBE 1405.

Gypsophoca dorifera, habits, E. COLEMAN 307.

Halichoerus grypus status and habits on Skomer Island, BUXTON and LOCKLEY 247; longevity records, MATHESON 940.

Mirounga angustirostris repopulation of Los Coronados Islands, Mexico, BARTHOLOMEW 106; *M. leonina* habits and economic value in S. Orkneys, LIVERSIDGE 891.

Monachus albiventer status in Black Sea, with list of museum specimens known, CASPERS 276; status and habits on coast of Rio de Oro, POSTEL 1109; *M. monachus* status and habits on Spanish Moroccan coast, MORALES-AGACINO 981.

Phoca groenlandica, *P. vitulina*, *P. hispida* status and ecology N.W. Greenland, VIBE 1405; *P. hispida* fat metabolism and lipids, WILBER and MUSACCHIA 1489; *P. vitulina* in Alaska, status, habits, depredations, control, IMLER and SARBER 732; photos on N. German coast, RITTINGHAUS 1159.

†ORDER LITOPTERNA

†MACRAUCHENIIDAE

Phylogeny of Pliocene and Pleistocene Macraucheniidæ, KRAGLIEVICH 831.

†ORDER NOTOUNGULATA

†SUBORDER NOTIOPROGONIA

†HENRICOSBORNIDAE

†*Henricosbornia magellanica* nom. nud. Eocene, Itaboraí, Rio de Janeiro, Brazil, p. 213, PRICE and COUTO 1118.

†ORDER ASTRAPOTHERIA

†TRYGONOSTYLOPIDAE

†*Trigonostylops apthomasi* nom. nud. Eocene, Itaboraí, Rio de Janeiro, Brazil, p. 213, PRICE and COUTO 1118.

ORDER TUBULIDENTATA

ORYCTEROPODIDAE

Orycteropus photos in captivity, ANON. 4.

ORDER PROBOSCIDEA

SUBORDER ELEPHANTOIDEA

†GOMPHOTHERIIDAE

†*Anancus arvernensis* Pleistocene Paderno, VENZO 1404.

†*Gomphotherium calvertensis* sp. nov. Miocene, 1.1 miles N. of Governor Run Road, Calvert County, Maryland, p. 7, GAZIN and COLLINS 510.

†*Haplomastodon* subgen. nov. (type *Mastodon chimborazi* Proano) see *Stegomastodon*.

†*Mastodon chimborazi* Proano historical and descriptive note, HOFFSTETTER 689.

†*Stegomastodon* (*Haplomastodon* subgen. nov.) for subgenotype *Mastodon chimborazi* Proano, p. 6, HOFFSTETTER, Pub. Ex. Polit. nacion. Quito No. 1, 1950.

†*Trilophodon elegans* Pliocene, Tienshiu, Kansu, p. 284, *T. hopwoodi* Pliocene, Shansi, p. 282, spp. nov., YOUNG and LIU 1526A.

†MAMMUTIDAE

Mastodonts in Munich, detailed account, LEHMANN 872.

History of some Ecuadorean mastodont specimens, ARAUZ 60.

Notes on occurrence of Mastodonts in Ecuador Pleistocene, PROANO and SAMANIEGO 1119.

†*Mastodon borsoni* first record Pliocene, Holland, KOENIGSWALD 824; in Holland, notes, SCHREUDER 1249; †*M. pentelici* Pleistocene Jugoslavia, CIRIO 302.

ELEPHANTIDAE

History and evolution of Proboscidea in Morocco, ENNOUCHI 433.

Asiatic Elephants, review of history, distribution, variation, systematics, biology, DERANTYAGALA 386.

Observations on elephants in captivity, HAGENBECK 580.

Elephants in war and peace, CARVER 274.

Elephants on Lower Congo in 17th century, BOUVEIGNES 177.

Survey of Swedish mammoth finds, SANDEGREN 1197.

†*Archidiskodon meridionalis* Pleistocene Paderno, VENZO 1404.

Elephas maximus dakhunensis, Travancore, S. India, p. 8, *E. m. borneensis* Borneo, p. 10, *E. m. sondaicus* Java (extinct), p. 10, *E. m. rubridens* China (extinct), p. 10, *E. m. persicus* Persia (extinct) p. 10 *E. m. asurus* Mesopotamia (extinct), p. 11, all subspp. nov. DERANIYAGALA 386; *E. maximus* external characters of three fetuses, AYER and MARIAPPA 79; olfactory nerve system, KOIKEGAMI and others 825; heart anatomy FIGULA 447; anatomy of tongue and throat, GHETIE 522; medulla oblongata, EGAWA and HIROKAWA 413; fossa rhomboides, HIROKAWA and EGAWA 684; plexus brachialis, MAYEDA and SUZUKI 945; longevity, H. A. ALI 45; birth and growth in Rome zoo, E. M. HINDLE 680; fatal epidemic in Assam, GEE 512, 516; catching methods and control, Assam, GEE 513; training methods, Malay, KEMPS 795.

Loxodonta distribution related to geology? HYDE 730; a criticism of Belgian Congo capture and training, BEDIGER 646; habits and hunting in Lake Chad area, OBERJOHANN 1020; 4-tusked, photo, ANON. 3; *L. africana* morphology, biology, domestication in Congo, DEVOCHT 387; naturally shed molars, E. MOHR 967; status and habits in Addo Bush, ARCHIBALD 62; ? record length of a Kivu tusk, BORMANS 166; control results Uganda, 1948, PITMAN 1097; control and status Uganda, 1949, p. 6, PITMAN 1098; *L. a. cyclotis* status, FORAN 467; *L. a.*, *L. cyclotis*, comparisons and photos, STOCKLEY 1816; *L. pumilio* a distinct species from *L. cyclotis* in Gaboon, descr. and measurements, BOURDELLE and PETTER 176.

†*Mammonteus primigenius* remains from Holland, ERDBRINK 434; recent find Poland, KULCZYCKI 844.

†SUBORDER DEINOTHERIOIDEA

†DEINOTHERIIDAE

†*Dinotherium* report on Serbian material, LASKAREV 858.

ORDER HYRACOIDEA

PROCAVIIDAE

†*Pliohyrax rossignoli* Pliocene, France descr. figs. and generic status, p. 471. VIBET 1417.

ORDER SIRENIA

DUGONGIDAE

Dugong dugon distribution and habits, GIBSON-HILL 529.

Rhytina gigas piece of skin in Hamburg Museum, descr. figs, E. MOHR 966

TRICHECHIDAE

Manatus, possible early record in Virginia, McATEE 904.

ORDER PERISSODACTYLA

SUBORDER HIPPIOMORPHA

Review of Quaternary Perissodactyla of S. Africa, COOKE 313.

†PALAEOTHERIIDAE

†*Palaeotherium* aff. *curtum* Eocene, Germany, DEHM 379.

EQUIDAE

Revised classification of recent Equidae, BOURDELLE and FRECHKOP 175.

Dental characters of S. Africa Equidae, COOKE 313.

Equidae frontal sinus evolution, EDINGER 412.

Feral horses in New Zealand, WODZICKI 1504.

Zebra hybrids, ANTONIUS 57; RZASNICKI 1189.

Brain evolution in Equidae shown by paleoneurology, EDINGER 411.

Pliocene Equidae of Mexico, LANCIE 850.

†*Amerhippus* gen. nov. for type species, †*Equus andium* Wagner 1860, p. 426, HOFFSTETTER, Bol. Inform. Cient. Nacion, Quito 1950, 3.

Equus dom. origins, comparison with wild and fossil forms, changes due to domestication, LUNDHOLM 898; shortening of molar row, WILLEMSE 1493; *E. caballus przewalskii* in Woburn Park, BEDFORD 123; *E. quagga* photo in captivity, M. BURTON 228; *E. zebra* census in Outeniqua Mts., S. Africa, MIDDLEMISS 958; *E. z. zebra* status and conservation recommendations, BIGALKE 146.

†*Equus broomi* sp. nov. Pleistocene Barkly West, S. Africa, p. 469; *E. cawoodi* Broom, *E. westphali* Dreyer synonyms of *E. capensis*, p. 450; *E. fowleri*, *E. plicatus*, *E. harrisi*, *E. zietsmani* synonyms of *E. kuhni*, p. 478, latter closely related to *E. grevyi*, COOKE 313.

†*Hipparion crusafonti* sp. nov. Pliocene, Villarcaya, Logrono, Ebro valley, Spain, VILLALTA 1411.

†*Kolpohippus* Van Hoepen synonym of *Equus*, p. 460, COOKE 313.

†*Pliohippus* (*Astrohippus*) *stockii* sp. nov. Pliocene, Vallé del Río Papigochic, W. Chihuahua, Mexico, p. 12, LANCE 850.

†*Pliohippus* (*Pliohippus*) *mexicanus* sp. nov. Pliocene, Yepomera, Chihuahua, Mexico, p. 35 LANCE 850.

†*Sterohippus robustus* Van Hoepen invalid, p. 458, COOKE 313.

†CHALICOTHERIIDAE

†*Chalicotherium goldfussi* new finds Pliocene, Rheinhessen, WEHRLI 1452.

†*Metaschizotherium* (?) *transvaalensis* sp. nov.? Miocene, Potgietersrust, Transvaal, p. 241, GEORGE 519.

†*Postschizotherium* systematic position, p. 474, VIRET 1417.

SUBORDER CERATOMORPHA

TAPRIDAE

Tapirus foot structure, BRESSOU 188; *T. indicus* habits in Malaya, HISLOP 685; distribution, status and habits in Siam, SANBORN and WATKINS 1195.

†AMYNODONTIDAE

†*Amynodon watanabei* Eocene Japan, addt. descr. figs. with notes on other Asiatic fossil Rhinocerotidae, TAKAI 1334.

RHINOCEROTIDAE

Brain morphology in rhinoceroses and other perissodactyles, FRIANT 487; Oligocene Rhinocerotidae from Germany, TEIKE and TOBIEN 1346.

†*Acerotherium filholi* Oligocene Savoy, France, descr. figs., MORET 982.

Ceratotherium simum identified as known to Greeks and Romans, GOWERS 553; census in Uganda, 1949, p. 26, PITMAN 1098; 1948 census in Natal, KLUGE 814; growth and habits in captivity, BIGALKE and others 147; a second captive specimen in Pretoria Zoo, SCHACK 1204; capture of young in Sudan, FERGUSON 442.

†*Dicerorhinus* Pleistocene Württemberg, review of all material, STAESCHE 1292.

Diceros bicornis precarious status in Ubangui-Shari, French W. Africa, ANNA 53; distribution and habits in W. Sudan, P. Z. MACKENZIE 918; habits in E. Africa, explanation of shoulder wound, STOCKLEY 1315; habits in Kenya, STOTT 1319; naturally shed molars, E. MOHR 967; speed, EBLE 408.

†*Diceros whitei* Chubb incorrectly founded, in part synonym of *Diceros bicornis*, p. 408, COOKE 313.

†*Hispanotherium* gen. nov. for type species, †*Rhinoceros matritensis*, CRUSAFONT PAIRO and VILLALTA COMELLA, Las Ciencias, Madrid, 12 4, 1947, p. 867.

†*Opsiceros simplicidens* Scott, a synonym of *Ceratotherium simum*, p. 407, COOKE 313.

Rhinoceros sondaicus cranial and dental characters, revised inventory of museum specimens, FINLAYSON 450; *R. unicornis* history and threatened extinction in N.E. India, GEE 518; status and conservation in Assam, S. ALI 44.

†*Rhinoceros scotti* Hopwood, a synonym of *Ceratotherium simum*, p. 407, COOKE 313.

ORDER ARTIODACTYLA

SUBORDER SUIFORMES

SUIDAE

Feral pigs in New Zealand, WODZICKI 1504.

Babyrousa babyrussa taxonomic notes, p. 117, HOOIJER 698.

†*Babyrousa babyrussa bolabatuensis* subsp. nov. subfossil, Badjo (Barebo dist.), 20 km. S.W. of Watampone, Central Bone, S. Celebes, p. 121, HOOIJER 698.

†*Celebochoerus heekereni* Pleistocene Celebes, addt. descr., figs of canines, HOOIJER 700.

Hylochoerus meinertzhageni weights and measurements in Kenya, STOCKLEY 1314.

†*Postpotamochoerus* subgen. nov. (type *Sus hypotherioides*) see †*Potamochoerus*.

Potamochoerus measurements and weights in Kenya, STOCKLEY 1314; *P. koiropotamus* habits in S. Africa, ASTLEY MABERLEY 71; *P. larvatus* first description of carpal glands, DOUCET 395.

†*Potamochoerus* (*Postpotamochoerus* subgen. nov.) for type species *Sus hypotherioides* Schlosser, THENIUS, Sitz. Ber. ost. Akad. Wiss. Abt. 1, 159 1950. p. 25.

Sus barbatus history in Malaya, probably endemic, GIBSON-HILL 530; *S. celebensis* taxonomic notes, p. 92, HOOIJER 698; *S. scrofa* investigation of great increase in Germany, OLOFF 1037; past and present status in Solothurn and other parts of Switzerland, BLOCH 153; *S. s. antiquus* origins and characters, HERRE 663.

†*Sus celebensis sarasinorum* subsp. nov. subfossil, Badjo (Barebo dist.), 20 km. S.W. of Watampone, Central Bone, S. Celebes, p. 117, HOOIJER 698.

†ANTHRACOTHERIIDAE

†*Anthracotherium* sp. Oligocene, Italy, descr. figs., LEONARDI 877.

HIPPOPOTAMIDAE

Hippopotamus amphibius numbers and habits in Parc National Albert, HOIER 692.

†*Hippopotamus* revision of Asiatic forms; *H. sivalensis duboisi* Naliwala, Sirmur State, Punjab, p. 54; *H. s. soloensis* Tinggang, Solo Valley, Java, p. 75, both subsp. nov. Pleistocene, HOOIJER 699.

†MERYCROIDODONTIDAE

†*Hypslops* gen. nov. pp. 100, 113 for type species *Ticholeptus brachymelis* Douglass; *H. luskensis* Miocene Niobrara County, Wyoming, pp. 101, 122, *H. johndayensis* Miocene, John Day Valley, Oregon, pp. 101, 123, spp. nov. SCHULTZ and FALKENBACH Bull. Amer. Mus. Nat. Hist. 95 1950.

†*Phenacocoelus kayi* Miocene, Niobrara County, Wyoming, pp. 100, 106, *P. stouti* Miocene, Platte County, Wyoming, pp. 100, 107, spp. nov. SCHULTZ and FALKENBACH 1251.

†*Promerycochoerus* (*Parapromerycochoerus*) *barbouri* Miocene Montana, descr. figs., p. 202, HIBBARD and KEENMON 670.

†*Pseudomesoreodon* gen. nov. pp. 100, 123, for type species *P. rooneyi* sp. nov. Miocene, Beaverhead County, Montana, pp. 100, 130; *P. rolli* sp. nov. Miocene, Jefferson County, Montana, pp. 100, 131, SCHULTZ and FALKENBACH, Bull. Amer. Mus. Nat. Hist. 95 1950.

†*Submerycochoerus* gen. nov. for type species *Ticholeptus bannackensis* Douglass, pp. 100, 124, SCHULTZ and FALKENBACH, Bull. Amer. Mus. Nat. Hist. 95 1950.

SUBORDER TYLOPODA

CAMELIDAE

Serological relationship of camel and llama, MASKAR 936.

Camelus ability to exist without water, ST. JOHN 1311; urinary system, TAYEB 1340; a mandibular character, LECHNER 865; *C. bactrianus* history of introduction to North America, R. B. GREEN 561.

†*Paracamelus alexejevi* sp. nov. Pliocene, Odessa, U.S.S.R., p. 918, HAVES-SON 629; *P. gigas* Pliocene Shansi, descr. figs., p. 2, TEILHARD DE CHARDIN and TRASSAERT 1347.

Vicugna vicugna habits and economic value, HODGE 686.

SUBORDER RUMINANTIA

TRAGULIDAE

Tragulus, noise made with feet, KEMPE 796.

CERVIDAE

Deer in Britain, BEDFORD 124.

Deer in Woburn Park, BEDFORD 123.

Deer increase in British Isles, RUFFLE 1178.

Deer parks in Britain, their history and management, WHITEHEAD 1469.

History and status of deer parks in Britain, WHITEHEAD 1483.

Deer of Cranborne Chase, history and status, CARNE 266.

Deer in S.W. England, HEWETT 668.

Introduced deer status in Britain, WHITEHEAD 1476.

Suggested closed season for deer, JOHNSTONE 763.

Dental anomalies in European deer, EIDMANN 418.

Introduction and status of deer in New Zealand, WODZICKI 1504.

Revision and key of S. American deer, KRUMBIEGEL 836.

Tertiary Cervidae from Styria, THENIUS 1362.

Alces alces status in Gorkov, U.S.S.R., DANILOV 350; birth, development, parasites in Berne Zoo, HEDIGER 641; *A. americana* food requirements Brit. Columbia, COWAN and others 321; *A. a. andersoni* subsp. nov. 15 m. E. of Brandon, Manitoba, p. 1; *A. columbae* Lydekker note on taxonomic status, p. 6, R. L. PETERSON 1082.

Axis axis antlered female, CHUR 301

†*Axis shansius* sp. nov. Pliocene, S.E. Shansi, p. 44, TEILHARD DE CHARDIN and TRASSAERT 1347.

Capreolus specific characters TEGNER 1344; taxonomic notes and hybridism, WHITEHEAD 1477; identity of malformed head, WHITEHEAD 1475; *C. capreolus* breeding biology and delayed implantation, STIEVE 1309, 1310; "rings" and the ergot theory, BUXTON 245; "fairy rings" BUXTON 246; seasonal movements, TEGNER 1343; status in S.W. England, JOHNSTONE 762; need for conservation in the British Isles, RUFFLE 1179; sex difference in coronoid process of mandible, STIEVE 1306; unusual head, H. P. BURTON 224; TEGNER 1345; abnormal antlers, WELCH 1457.

†*Cervavitus demissus* sp. nov. Pliocene S.E. Shansi, p. 39, TEILHARD DE CHARDIN and TRASSAERT 1347.

†*Cervoceros novorossiae* Pliocene, S.E. Shansi, descr. figs., p. 30, TEILHARD DE CHARDIN and TRASSAERT 1347.

†*Cervulus lacustris* p. 21, *C. nanus* p. 24, spp. nov. Pliocene, S.E. Shansi, TEILHARD DE CHARDIN and TRASSAERT 1347.

Cervus canadensis productivity and sex ratio, H. V. GREEN 560; intersex, G. E. HUDSON 716; *C. elaphus* antler growth and variation in Germany, WEZEL 1464; *C. e. hispanicus* record heads, F. WALLACE 1434; *C. e. scoticus* 1949 status and records, WHITEHEAD 1470; status in S.W. England, JOHNSTONE 762; status in Lake District, MOOREHOUSE 979; a case of twinning, MACNAUGHTON 922; further cases of twinning, WHITEHEAD 1474; note on heights, JOHNSTONE 761; habits during and after rut, R. PERRY 1078; albinism at Woburn, BEDFORD 121; WHITEHEAD 1478; *C. sika* status in S.W. England, JOHNSTONE 762.

†*Cervus giganteus* a specimen in Vancouver Museum, MENZIES 951.

Dama dama freak antlers, BENZON 137; albinistic herds in Britain WHITEHEAD 1473.

†*Dama sericus* sp. nov. Pliocene, S.E. Shansi, p. 50, TEILHARD DE CHARDIN and TRASSAERT 1347.

Elaphurus davidianus photo in captivity, M. BURTON 228.

†*Eostyloceros blainvillei* Pliocene Shansi, descr. figs. p. 12, TEILHARD DE CHARDIN and TRASSAERT 1347.

†*Eucladoceros boulei* Pliocene, S.E. Shansi, descr. p. 52, TEILHARD DE CHARDIN and TRASSAERT 1347.

†*Megaloceros* systematics, STCHEGLOVA 1295.

†*Metacervulus* gen. nov. for type species, *M. capreolinus* sp. nov. Pliocene S.E. Shansi, p. 13, TEILHARD DE CHARDIN and TRASSAERT, Palaeont. Sinica N.S.C., 1 (whole series 102), 1937.

†*Micromeryx styriacus* sp. nov. Miocene, Goriach, Styria, Austria, p. 235, THENIUS 1362.

Moschus moschiferus status and exploitation, HAWKINS 630; history of exploitation, economic value, present status, MATHESON 938.

Muntiacus muntjak habits and growth in captivity, LOCH 892.

Odocoileus hemionus breeding productivity, CHATTIN 289; breeding habits in Utah, ROBINETTE and GASHWILER 1166; *O. h. californicus* ecology in chaparral forests, CRONMILLER and BARTHOLOMEW 327; food selection, FERREL and LEACH 444; *O. virginianus borealis* foetal development, ARMSTRONG 64.

†*Paracervulus* gen. nov. for type species *P. bidens* sp. nov., p. 15, and *P. brevis* p. 18, *P. attenuatus* p. 19, *P. simplex* p. 20, all spp. nov. Pliocene, S.E. Shansi, P. recorded W. Europe p. 55, TEILHARD DE CHARDIN and TRASSAERT, Palaeont. Sinica N.S.C. 1 (whole series 102), 1937.

†*Platycemas* gen. nov. for type species *P. infans* sp. nov., p. 25, Pliocene, S.E. Shansi, TEILHARD DE CHARDIN and TRASSAERT, Palaeont. Sinica N.S.C. 1 (whole series 102) 1937.

Rangifer arcticus conservation in Quebec, ROUSSEAU 1176; *R. tarandus* effect of domestication on colour and form, HERRE 661; possibilities of

introduction to Scotland, PRAG 1113; history of introduction to Alaska, exploitation and management, LANTIS 856; status in Alaska, SCOTT and others 1257; value of introduction to N. America, E. ROBERTS 1160; status on Pribilofs, 1947, THOMPSON 1367; subfossil in E. Prussia, GROSS 569. *Rucervus eldi platyceros* precarious status in Siam, SANBORN and WATKINS 1195.

Rusa age-changes in dentition, BEMMEL 133.

†*Rusa* cf. *elegans* Pliocene, S.E. Shansi, p. 42, TEILHARD DE CHARDIN and TRASSAERT 1347.

†LAGOMERYCIDAE

†*Lagomeryx parvulus* Tertiary, Styria, p. 221, THENIUS 1362.

GIRAFFIDAE

Giraffa breeding and growth in captivity, REVENTLOW 1147; shortening of molar row, WILLEMSE 1493; liver morphology, gall-bladder absent post-natal, CAVE 280; popular account, STOTT 1320; *G. camelopardalis* unspotted and albinistic, PETZSCH 1090.

†? *Honanotherium* sp. Pliocene Shansi, descr. p. 10, TEILHARD DE CHARDIN and TRASSAERT 1347.

Okapia johnstoni not known to ancient Egyptians, KEIMER 789; in captivity, discussion of biological problems, HEDIGER 645; notes in captivity, SCHNEIDER 1237; captivity photos, CASPARY 275; transportation methods, WENDNAGEL 1459; eye structure, BRUCKNER 206; cerebral indices, PORTMANN and WIRZ 1108; clinical observations, E. M. LANG 852; nematodes, KREIS 833; helminths, BAER 81; SCHEIDEGGER 1226; bibliography, BRUHIN 207.

†*Palaeotragus* sp. Pliocene Shansi, p. 9, TEILHARD DE CHARDIN and TRASSAERT 1347.

ANTILOCAPRIDAE

Antilocapra americana ecology in Texas, BUECHNER 213; reproductive potentials, CHATTIN and LASSEN 290; reproductive tract, sexual identity of

twins, TRYON and BUCK 1380; food habits in California, FERREL and LEACH 445.

BOVIDAE

Bovidae in Woburn Park, BEDFORD 123.

History and characters of British cattle, E. J. ROBERTS 1161.

Feral cattle, sheep and goats in New Zealand, WODZICKI 1504.

Buffaloes of Asia and Africa, economic importance, MARSBOOM 933.

Recent and fossil Bovidae of E. Africa, DIETRICH 392.

Review of the small African antelopes, OELCKERS 1027.

Antelopes at London Zoo, BRIGHTWELL 190.

Dwarf African goat skeletons, CHANG and LANDAUER 286.

Adenota kob pseudo-albinism, URBAIN and BULLIER 1389.

†*Aeotragus* gen. nov. for type species *A. garussi* sp. nov. Pleistocene, Garussi R., S. Serengeti, Tanganyika, p. 38, DIETRICH Palaeontograph. Stuttgart, 99 (A), 1950.

Anoa taxonomic notes, p. 131, HOOIJER 698.

Antelope cervicapra hagenbecki, *A. c. rajputanae* Zukowsky, photos of living types, p. 218, ZUKOWSKY 1546.

Bison census in Wood Buffalo Park, FULLER 492; astralagus characters distinguishing from *Bos*, LUTTSCHWAGER 899; *B. bison* earliest breeding age, NEGUS 1003; treatment of young by cows in captivity, BEDFORD 122; *B. bonasus*, conservation, BURR 222; history of present stocks, aims and methods of restitution, ZABINSKI 1533.

†*Bison* structural peculiarities of early forms, BIBIKOVA 144.

†*Bison* (*Platycerobison*) *chaneyi* notes on Mexican specimens, HIBBARD and VILLA 671.

Bos bubalis giant horns artificially produced in Sumba, WEGNER 1451; *B. gaurus*, habits and status in India,

GEE 517; *B. grunniens* early classical references, PRELL 1115; *B. dom.* earliest European records, HERRE 662; history, breeding and value of polled cattle, HAMMOND 594; functional anatomy of prostate gland, SCHENKER 1230; *B. taurus* origins of European domestic cattle, KRUYTZER 839; photo of original Chartley herd, E. HARDY 606; photo of Dynevor herd, W. 1503; reduction of Chillingham herd, PEATFIELD 1072; status of Cadzow herd, MOORHOUSE 980; status of Cadzow type cattle, WHITEHEAD 1472; white herd at Vaynol Park, Caernarvonshire, R. C. B. GARDNER 502; origin of white Colombian breed, MAC-ALLISTER 903; *B. t.* × *B. indicus* crossbreed grazing ecology, BARISSON VILLARES 102.

Bubalis caama reduction in Natal, HANDLEY 598.

Capra aegagrus turkmenicus subsp. nov. Khorosan Mts., Turkmenia, U.S.S.R., p. 325, TZALKIN 1385; *C. hircus* horn development in skulls from Juan Fernandez, KRIEG 834; *C. ibex* history and status in Switzerland, WYATT 1516; conservation, in N. Italy, HOWELL 713; history and status in Italy, WHITEHEAD 1480; conservation, history and measurements, WHITEHEAD 1481; conservation in N. Italy, WHITEHEAD 1482; *C. lusitanica* history and extermination in Portugal, BAETA-NEVES 82.

Cephalophus silvicultrix status N. Rhodesia, ANSELL 54; *C. s.*, *C. spadix* habitat, habits, description and measurements, IONIDES 735.

†*Connochactes taurinus major* subsp. nov. Pleistocene, Garussi, S. Serengeti, Tanganyika, p. 33, DIETRICH 392.

Damaliscus lunatus jimela albinism, FRECHKOP 480.

†*Gazella hennigi*, *G. janenschi*, *G. kohllarseni* Pleistocene, S. Serengeti, Tanganyika, spp. nov. p. 25, DIETRICH 392.

Gorgon johnstoni rufijianus de Beaux, *G. albojubatus schulzi* Zukowsky, photos of living types, p. 216, ZUKOWSKY 1546.

Hemitragus jemlaicus introduction and status in New Zealand, WODZICKI 1504; *H. j. schaeferi* habits, habitat, photos, SCHAEFER 1205.

Hippotragus niger last survivors in N. Transvaal, ELOFF 426; *H. n. variani* variability of facial markings HENDERSON 654; ? record head, photographs, YEBES 1521.

Limnotragus spekei selousi habits and habitat, E. DAVISON 369.

Onotragus smithemanni habits and habitat N. Rhodesia, POLES 1100.

Ovis dom. Algerian breeds, BOYER 180; *O. canadensis* associating with cattle, HALLORAN and BLANCHARD 591; *O. c. dalli* status in Alaska, SCOTT and others 1257; *O. c. californiana* history, distribution, status, habits, conservation, F. L. JONES 765; *O. ophion* status on Cyprus, WATERER 1443.

†*Parestigorgon* gen. nov. for type species *P. gadjingeri* sp. nov. Pleistocene, Gadjingero R., S. Serengeti, Tanganyika, p. 30, DIETRICH Palaeontograph. Stuttgart 99 (A) 1950.

†*Praedamalis* gen. nov. for type species *P. deturi* sp. nov. Pleistocene, Detur R., S. Serengeti, Tanganyika, p. 30, DIETRICH Palaeontograph. Stuttgart 99 (A) 1950.

†*Praemadoqua* gen. nov. for type species *P. avifluminis* sp. nov. Pleistocene, Vogelfluss, S. Serengeti, Tanganyika, p. 34, DIETRICH Palaeontograph. Stuttgart 99 (A) 1950.

Rupicapra rupicapra introduction and status in New Zealand, WODZICKI 1504; method of measuring horns, WHITEHEAD 1471.

Strepsiceros strepsiceros a case of locked horns, GLYNN-BAKER 540.

Syncerus nanus in S. Sudan, DANIELL 349.

Taurotragus derbianus status in Uganda, p. 24, PITMAN 1098.

†*Urmiabos* gen. nov. for type species *U. azerbaijanicus* sp. nov. Miocene, Maraga, Azerbaijan, U.S.S.R., p. 876, BURTCHAK-ABRAMOVITCH C. R. Acad. Sci. Moscow N.S. 70 1950.